The American Journal of
CLINICAL MEDICINE
Dependable Therapeutic Fact for Daily Use

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The Spanish Influenza Epidemic

SPANISH influenza, so called, seems to be on the wane in some parts of the country, while it still is very severe and widely prevalent in others. One should not be misled by the designation "Spanish." The disease calls for that treatment which is applicable to all infectious diseases with invasion through the air passages. Read the editorials on this subject.

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Spanish Influenza

ON the subject of the present epidemic of socalled Spanish influenza, which appears to have assumed a pandemic extension, the United States Public Health Service has published various communications in *Public Health Reports*, a popular account also appearing, as Supplement No. 34, to the same publication for September 28, written for general information.

It has been denied that this disease is actually caused by the influenza-bacillus, while micrococci catarhalis, pneumococci, streptococci (e. g., viridans), and various staphylococci have been isolated. Irrespective of whether the influenza-bacillus actually is concerned in the causation of the affection or not, it undoubtedly is true that some of the other organisms involved are responsible for the severe symptoms that are observed. As in any influenza epidemic, it will be wise to treat every "cold" as though it were influenza and to take every possible precaution, in order to prevent complications that constitute the most seriously menacing factor.

Spanish influenza, three-day fever, the "flu" are terms applied indiscriminately to this affection. It is characteristic, we presume, of our national nonchalant attitude toward danger to have evolved and put to use at once some flippant designation, such as "flu", for a disease that certainly can not be treated with levity. However, we believe that the public has been fully impressed with the seriousness of the problem confronting us and that physicians are not finding much difficulty in enforcing the greatest care, not alone on the part of those affected, but also of the public at large. It seems to be realized that this is no time when we can yield supinely to any "visitation" whatsoever, but must unite on energetic measures to overcome it promptly and thoroughly, so as to be free and untrammeled for the highly important and pressing work of carrying the war to a successful termination.

Clinically, the symptoms are those of a severe grip, the outstanding features being: headache, depression, general malaise, aching all over, and, very soon, high fever; a temperature of 103° and 104° F. is not exceptional. In a few cases, we have observed an initial digestive distress, some-

times even nausea. We can not agree, however, with the assertion of some writers, that constipation is the rule; indeed, in several cases diarrhea was present. Cough, which is likely to be very tight, occurs on the second or third day. The pulse may attain a frequency of 120 and even 140; while occasionally it is observed to be very slow, as few heartbeats as 60 per minute having been noted. The patient is severely prostrated and gives the impression of being very ill.

In ordinary cases, the affection runs its course in a few days. Whether the active treatment instituted contributes to this result or whether the disease is self-limited, it is not possible to say. In various instances where a high temperature was reduced to 100, by means of sponging and tub-baths, it rose again in the course of a few hours, and this behavior persisted for several days, until eventually the infection seemed to have been overcome by the development of an efficient immunity.

As has been noted by many observers, the danger of "Spanish influenza" lies not so much in the primary disease as in the complications, the most notable of which is pneumonia, and this seemingly of the lobar type and almost invariably rapidly fatal. In one case, in which the present writer was called in consultation and where he sought to relieve the pulmonary congestion by venesection, the blood coagulated as soon as withdrawn, indeed, clogged up the large-caliber needle that tapped the vein. This fact of the blood being intensely coagulable in the pneumonia of Spanish influenza indicates a rapid development of pulmonary edema and affords certain therapeutic suggestions.

One important feature in influenza is, the leukopenia which has been observed by almost all laboratory-men studying the disease. In contrast with many other infections, there seems to be no leukocytic response by the appearance of a hyperleukocytosis, and here, again a therapeutic indication is presented.

As to the treatment, we have found acetylsalicylic acid to control the fever measurably well in cases of not great severity. It certainly diminishes that aching all over the body of which the patients complain, and it very probably also exerts a slight germicidal effect. We have found it well to guard the heart, while giving acetylsalicylic acid, by 1-grain doses of monobromated camphor or by cactus grandiflorus. Our best results in controlling the fever were secured by sponging, packs or tub-baths (in children), either in water or with epsom-salt solution (1 tablespoonful to the quart). In children, the tub-bath may be given, starting it warm and then cooling off until the temperature is reduced to about 100° F. For adult patients, sponging is more feasible, although a pack has given very satisfactory results; a bath-towel being wrung out of the epsom-salt solution and wrapped around the trunk and allowed to remain for several hours.

In order to ease the cough and loosen bronchial secretions, iodine—for instance, in the form of iodized calcium—is a very acceptable remedy. It may be given freely and to effect. A systemic antiseptic that has proved of value, both prophylactic and curative, is calcium sulphide. This should be given continuously, to saturation, the latter to be maintained for several days.

In order to increase the systemic defense and overcome the deficiency of white blood-cells, hypodermic injections of nuclein have, we believe, given good service. In the early stage, before there is any fever, one or more doses of a bacterin containing the micrococcus catarrhalis, the bacillus of Friedlander, several pneumococci, streptococci, and staphylococci seem to induce an effective immunity, and we believe that such a bacterin is advisable as a prophylactic.

Great care must be exercised in the general management of the cases. The patient should be put to bed as soon as marked illness has declared itself and be kept there until all symptoms have been absent for several days. This is indispensable, if complications are to be guarded against. In our experience, there is no contingency in which the physician must more insist with the utmost stringency upon strict obedience to his orders than in the present epidemic of "Spanish influenza," by treating the patients promptly and energetically in accordance with the severity that the attack may attain, even before this has actually declared itself. We believe that many serious complications and many deaths may be prevented by observing these precautions.

It must be borne in mind that complications involving the lungs occur especially in strong, vigorous, young subjects. The

present writer has in mind the case of a young woman previously in splendid health and of magnificent physical development whom he saw in consultation and in whom there developed pneumonia very early in the attack and to which she eventually succumbed. It seems to us that great physical vigor enables the organism to exert a rapid and marked germicidal bacteriolytic action upon the invading organism, although it does not succeed in breaking down the resulting toxins with sufficient rapidity. The result is, that the circulation becomes so swamped with toxins that it succumbs to its own immunity, so to speak, the respiratory and circulatory centers being paralyzed and death supervening rapidly.

We can not insist too strongly that physicians should be particularly severe with those healthy young patients who laugh at the idea of danger possibly lurking in a "cold," even though this might be severe. Their very bodily strength, of which they pride themselves, is a source of danger. This has been terribly typified in the many fatalities that have occurred at the Great Lakes and in several military camps.

The dietary and hygienic treatment is to be regulated in accordance with the usual rules. Convalescence is assisted by an appropriate tonic, such as, for instance, the arsenates of strychnine, quinine, and iron, or some preparation of creosote.

Under no circumstance, must the patients be permitted to return to work too early, not only for their own sake, but, also, in order to protect those with whom they may come in contact. This precaution was brought home to us particularly on finding Vincent's spirillum in the sputum of one convalescent. This enforces the lesson that we must examine the sputum of every convalescent before dismissing him from treatment.

The man who has everything enjoys nothing, and the man who has nothing enjoys what he has.

THE PREVENTION OF SPANISH INFLUENZA

In the course of a great pandemic like the present one of Spanish influenza, which is sweeping from coast to coast and from the Great Lakes to the gulf of Mexico, the question that is asked of the doctor more than any other is, "What can I do to protect myself?" Not only is the individual himself concerned in the correct answer to this question, but, virtually every social and industrial organization; for, in a community where this disease is epidemic, everything stops unless it is arrested and eradicated. Equally important with the sickness and the deaths that cause such widespread anxiety, is the slowing down of production at a time when all America is concentrating upon work necessary for the winning of the war.

What answer can the doctor give to these requests for protection? Is there anything of practical value that he can offer? Our answer is, "Much."

It is known that Spanish influenza, like most contagious diseases, is conveyed by the secretions from the nose and throat. This much seems to be definitely proven. The problem, therefore, is a twofold one: (1) to remove, so far as possible, contact with persons that are discharging these germ-laden secretions from the nose and throat; (2) to prevent the multiplication of these organisms in the nasal and oral cavities.

The first of these measures can be but partly accomplished, by means of quarantine and segregation, because of the large number of persons contracting the disease at the same time, and because of the large percentage of those that have the disease in such a mild form as to go either unrecognized or untreated. However, segregation should be enforced to the fullest extent possible, and indiscriminate mingling of people in crowds and in public assemblages of any kind should be reduced as much as possible without disturbing the public morale. When people are actually sick with the disease, and particularly if they are severely ill, it is desirable that the mouth and nose of the patient and attendants should be covered with a gauze face mask. Such a mask can be easily extemporized by any ingenious housewife. Two or three layers of gauze are sufficient, and, to make assurance doubly sure that no dangerous organisms penetrate the mask, it is an excellent plan to impregnate it with some simple but powerful antiseptic, for instance, an oil solution of dichloramine-T.

For personal prophylaxis, the nasal and oral mucosa should be kept as nearly sterile as possible. For this purpose, the various Dakin antiseptics are probably the most efficient. Dichloramine-T, for instance, is

probably the most powerful germicide ever introduced, and it has the added advantage of being virtually nontoxic. Dakin and Dunham, in their "Handbook of Antiseptics," have shown that a 5-percent solution of dichloramine-T will destroy the ordinary organisms, in a blood-serum and muscle-extract medium, in thirty seconds, something not accomplished with strong solutions of carbolic acid and bichloride of mercury in several hours. A comparatively weak solution of this antiseptic will, we believe, render the nasopharyngeal mucosa an unfavorable medium for the development of the microorganisms involved. The oily-solution has the added advantage of adhering to the mucous membrane for several hours, surrendering the germicide slowly, and thus giving prolonged protection. The only objection to the use of this antiseptic is that, to give best results, it should be applied either by a physician or a trained attendant.

A simpler antiseptic, and one that is also exceedingly powerful—far more so than carbolic acid or bichloride of mercury—is chlorazene, which can be used as a gargle or spray for the nose or throat. This is the most satisfactory antiseptic for home use. It is one that can be employed by any person of average intelligence.

The ideal toilet for the nasopharyngeal tract would seem to consist in the combined use of these two antiseptics; that is, chlorazene for home use, dichloramine-T for use in the factory, hospital or other institution where trained attendants can administer it. This is the combination which is being adopted by a number of the great corporations; for instance, the Inland Steel Company, in one plant employing 7,500 men, is providing dichloramine-T-chlorcosane spraying for its entire force twice a day. Each working man is supplied with a dozen tablets of chlorazene, contained in an envelope stamped with simple directions. This concern, as do other corporations, realizes the vital importance of home treatment. Sickness at home keeps the workman at home, and, more than that, from one family the disease is likely to be spread to others. The welfare of the institution is bound up with that of the community.

Many have asked us as to the practical use of vaccines or serums. First, we may say that no prophylactic serum has thus far been devised. It is possible that in the treatment of the complicating pneumonias, the type 1 pneumococcus-serum may prove of considerable value, in treating the disease, but, it is probably of no value as a preventive of influenza.

A good many physicians are claiming excellent results in the prevention of the disease by the use of bacterins. It is probable that these, properly used, do exercise a very beneficent effect and may, possibly, entirely prevent the occurrence of the disease in some instances.

It is difficult to immunize against the influenza-organism, and it is, therefore, a question whether its inclusion in a prophylactic bacterin adds to its value. There is no doubt that streptococci (particularly the hemolytic) feature very strongly in the etiology of this epidemic, and particularly in the occurrence of complications. The micrococcus catarrhalis has, likewise, been found present by almost every observer. While most of the influenzal pneumonias are streptococcal, pneumococci are being found in some instances. A combination of these organisms in a bacterin should, therefore, have considerable value in fortifying the organisms against infection with these germs.

What of internal treatment? No one can offer a panacea. However, we have great faith in our old friend, calcium sulphide. We believe that thorough saturation with this malodorous but exceedingly valuable drug will contribute very greatly to the prevention of the disease. For this reason, we have no hesistancy in recommending its use in every instance.

On account of the existing deficiency in leukocytes, it is reasonable to induce a hyperleukocytosis by hypodermic injections of nuclein solution.

Now, to epitomize:

To prevent influenza, we suggest the following routine:

1. So far as possible, segregate every person sick with the disease. Keep him at home and away from contact with other people. Discourage other people coming to see him, except the absolutely necessary attendants. In the home, put him in a room by himself. Cover the door with a sheet saturated with an antiseptic solution and keep other members of the family out.

2. In the course of an epidemic, advise the use of chlorazene solution; one of 1-8 to 1-4 of 1 percent as a gargle, and a weaker

solution as a spray or instillation in the nose. In every manufacturing plant, hospital, and Army cantonment, and in other places where mass treatment is desirable, spray twice daily with a 1-percent dichloramine-T-chlorcosane solution.

3. Use as a prophylactic a vaccine containing streptococci (viridans and hæmolyticus), pneumococci, and micrococcus catarrhalis. Give a relatively small dose at the first injection, and repeat once or twice.

4. Saturate throughly with calcium sulphide all those willing to take energetic measures for prevention.

The reason most people are willing in the end to admit their life a failure is, because their ideals were too lofty in the beginning. If we could only start out with the understanding that man is a two-legged beast, we would save a lot of time and have a heap more fun.—H. L. Meader.

PUTTING WAR OUT OF BUSINESS
UNIVERSAL MILITARY SERVICE

A few weeks ago, a great exhibit was held by the United States government at Grant Park, Chicago, in which various war activities were illustrated forcibly to us stay-at-home civilians, even to the carrying out of sham battles and trench warfare. Even more than the racket of muskets and the booming of cannons, more than the whirling of aeroplanes and the maneuvers of the troops, the visitors to this exposition were impressed with the pictorial descriptions of the distress of war in devastated Belgium and France and by the evidences of the hardships which our boys and those of the Allied nations have to undergo in order to repell the invasion of the war-crazed enemy. The pictures that were shown, oil paintings, drawings, newsprints, depicting the most horrible conditions in the destruction of towns, villages and peoples in the wanton slaughter of animals and especially in the unspeakably cruel and criminal murdering of helpless women and children, must have more than anything else aroused the wrath of the beholders and the burning desire to do away with any government whose machinations and intrigues could bring about such frightful conditions.

We are pledged with the Allied nations to bring the war to a successful termination and we are unanimous in that we mean by successful a victory that shall make it impossible for the German government ever again to endanger the peace of the world. The opening months of the war have emphasized the handicap that necessarily must hinder peoples who are engaged in peaceful pursuits and do not in any way devote personal and individual attention to war-like preparations in the way of military training, when suddenly forced to take up arms. We might point, however, to Switzerland which succeeded promptly and without any hitch in mobilizing its army, by no means contemptible in size and quality, and is occupying its borders, surrounded as this country is, by warring nations. The efficiency with which Switzerland has maintained its military preparedness is due to the fact that for many years every able-bodied citizen of this democratic republic has been a soldier; that he knows how to bear and use arms, and how to defend his country.

In our own country, the absolute ignorance of the vast majority of people in military matters was made especially evident when our government was confronted with the task of raising and training a huge army for which only the smallest nucleus existed in the shape of the regular army and of the national guards. In calling upon the young men between twenty-one and thirty-one years of age who reported for military service, an astonishingly large proportion of men was found to be physically deficient for the task that was to be accomplished. This state of affairs presented a serious problem not only to the military advisors and authorities of the United States but also to sanitarians, educators and many others who by virtue of their calling are concerned and interested in the physical development of the people.

In the training camps in which the accepted young men were subjected to the rigorous course of military training, the advantages of the strenuous military life soon become evident and the conviction has become more and more general that military training is of service and possesses possibilities for great good, physically and mentally, not only in the existing emergency but also for later times; even though we all hope that never again shall the world be called upon to defend its homes in the manner in which it has been necessary for over four years. Military training and discipline have impressed upon young Americans a lesson that will bear fruit for many years to come. This is shown in

an improved physical condition, in a smarter, more decided bearing, in the absence of slouching, but also in a greater decision of action; the consequences of clean, healthful, regular living being manifest in many directions.

An instance of this which is particularly expressive was illustrated in *The Military Surgeon* for April, 1917, where pictures of two North Carolinians "before and after" military service were published. On enlistment, the two boys showed the sloppy, slouchy, unwholesome attitude that travelers in North Carolina are so familiar with in the mountaineers. Thin, anemic, shiftless, lazy—we know the type, having seen them meandering after their wives, with their hands in their pockets, while the latter carry the baby and a basket of berries or flowers that they brought to the town to sell in order to support the husbands. Too "delicate" to work, the men live and amuse themselves, yet, they are strong enough to go shooting, tramping through the woods for days. However, what we are coming to, the second picture of the same men shows them as soldiers in Uncle Sam's uniform, well set up, intelligent, alert. If they are at present in France, as we presume is the case, they undoubtedly have helped vigorously in the victorious onward march of the Allied and American armies which put the German soldiers on the run. Moreover, we venture to predict that, after their return, they will no longer be content with their former shiftless ways of living but that they will be active and useful citizens.

This is what military training has done in extreme cases. It would do that, and more, for the young manhood of cities and villages and would develop a sturdy, vigorous, aggressive (in the good sense of the term) energy which needs must result in bringing American activities and enterprises even more to the front than they already are. We have repeatedly voiced our opinion in favor of universal military training as a permanent institution of the United States. The experiences of the war have supported our convictions.

THE COOTIE

The importance of little things for the success or failure of great undertakings is manifested particularly in the problem presented by body lice and similar parasitic pests that infest persons who live for long periods in places where bathing and disinfecting facilities are not available. One of the serious tasks that have to be solved by the sanitarians in charge of soldiers' camps, more especially in the advanced lines and in the trenches, is that of the "cooties" which not only impair the military efficiency of soldiers and officers alike by the everlasting nagging torment to which they subject their victims but are even far more dangerous owing to the fact that they have been proved guilty of transmitting serious diseases, such as trench fever and various infectious maladies.

In the nature of things, the extermination of body parasites is most difficult in the trenches and it was of paramount importance to investigate closely the life history of these insects as well as their habits and the manner in which they are capable of transmitting disease.

There is in Washington a man hailing from Chicago who is acting in personal and intimate cooperation with entomologists of of the United States Department of Agriculture in their endeavor under the direction of the Council of Research of the Council of National Defense to find preventatives and exterminators for the body parasites. Valuable data in regard to the control of the "cootie" have been obtained from the parasites that this volunteer permits to live on his body and moving pictures of them have been taken through the microscope which are to be magnified and shown at army camps before scientists and army officers engaged in delousing work.

The entomologists, in addition to watching these particular "cooties" and others confined in glass tubes and other places, are testing chemicals to learn their destructive action on lice, their effect on human bodies and their penetration of clothing. Also, they are cooperating with army officers in testing laundering and delousing processes. They are trying to add to the knowledge of how to repel, kill or drive away the tiny parasites that to many of our soldiers have proved more troublesome than the Huns or the bullets of the Huns.

One of the scientists of the Bureau of Entomology, Department of Agriculture, also is serving as a host for the parasites, but in a more restricted sense than the Chicago man. His "cooties" are confined under the glass top of a wristlet, much like

a wrist watch, and they pass their existence, from the egg stage to the dead adult, on the skin of his arm, and can not move to any other spot. Through the glass cover the entomologist can watch the "cooties" as they emerge from their shells and go through all the stages of their life cycle.

Extensive Governmental efforts to devise ways of overcoming the parasitic evil are under way. Similar efforts have been made and are being made in practically every country that has large armies in the field.

CLINICAL OBSERVATION AND LABORATORY RESEARCH

The trend of modern medical thought is toward chemical and biochemical investigation, and the value of clinical data naturally is discounted unless the latter can bear the searching scrutiny of the cold eye of the laboratory. This is as it should be. However, it does not follow that clinical conclusion should be discredited or discarded while awaiting laboratory proof. Moreover, when with almost unfailing regularity certain definite results follow upon certain definite procedures, one may be forced to conclude that dependence of the former upon the latter is real, and not chimerical.

This opinion, expressed in an article in a recent issue of *The New York Medical Journal,* only repeats a conviction which we have voiced more than once in the past. It has so often been pointed out that the "cold eye of the laboratory" arrogates to itself too great a power of decision and that it leaves out of consideration the unquestionable value of clinical observation and experience. If the laboratory worker desires to subject everything to chemical or biochemical tests, and if he is prone to go too far by crediting the value of these tests with almost mathematical certainty, the clinician in part is to blame himself, because he has, in the past looked up to the laboratory-worker and deferred to his opinion more than was justified by facts.

It is within the memory of many of us that medical research was carried on almost entirely by clinical observation at the bedside. Animal-experimentation for the purpose of elucidating purely medical problems were first undertaken only at about the middle of the past century, although Albrecht Haller (†1777) already utilized animals in experiments in physiology. Through all the centuries preceding the last one, the total of medical knowledge had been gained by observation, and it is a cause of constant surprise and admiration that this observation has been so correct and that deductions had been justified so fully as actually was the case. One need but recall in proof of this certain descriptions of Hippocrates which hardly can be surpassed by the most modern treatises in clinical acumen and common-sense reasoning.

It is true that laboratory-research, chemical investigation, and experimental medicine, supplemented by pathological physiology, had aided us in elucidating many problems that had been obscure. Yet, however much the results of these more recent researches contributed to secure more favorable results in the treatment of patients, they have extended more to details than to principles.

All these things are true even more now than they were in times past. We desire to warn against neglecting the study of the patient as a clinical entity in favor of purely laboratory-research. It must never be forgotten that even in experimental medicine the methods of investigation never can be absolutely positive and that there always is the unknown factor, even in animals, of individual peculiarity. This factor exists in even greater degree in human beings, where the mental processes play so important a role in coloring the subjective symptoms and where the individual equation is a large factor in regulating the yielding of the organism to disease.

This might be carried further. However, there is another point that can be made in support of clinical observation. While in the last twenty years or so pharmacology has done much to establish the value of certain drugs and therapeutic procedures, it can not be maintained with justice that all the prior observations and studies given the action of drugs upon the diseased human organism were useless or that their conclusions have to be discarded. Indeed, ultimately, pharmacological experiment has to conform to clinical conclusions based upon experiences at the bedside, and these never can be replaced entirely by pharmacological experiments.

The practical outcome of all this is, that, besides the advantages to be gained by re-

course to laboratory-studies, the practitioner and the clinician would make a mistake if they were to deny themselves the information derivable from actual clinical experience. After all, the test of any therapeutic procedure, no matter how well substantiated in the laboratory, is afforded only by the clinical proof under conditions of disease in humans. It remains a fact that laboratory-research can be only in the nature of a guide and that it is of no use unless it is susceptible in practical proof in actual pathologic conditions.

An electric fan will buzz away all day and blow off a lot of wind, but, it never says anything.

"SPANISH" INFLUENZA (GRIP)

The New York City Board of Health recently published the following information, in form of a circular, which may well be accepted as a model for other health authorities.

Influenza and pneumonia, are infectious diseases caused by germs which are carried in matter that was spat, sneezed, or coughed up by sick persons or by persons who show no signs of illness.

If a person is not in good health he usually is unable to resist the attack of the germs.

If everybody followed this advice strictly, there would be little danger of an epidemic.

Special Advice for Preventing These Diseases.—Avoid contact with matter which is sneezed, coughed up, or expectorated. If you must sneeze, cough, or expectorate, do it into your handkerchief.

Do not use a cup, spoon, knife, fork or dishes which have been used by others unless they are first thoroughly washed in boiling water. This applies to the home as well as the restaurant and soda water fountain.

One should avoid placing into the mouth, pipes, cigar holders or pencils which have been used by others.

Avoid placing the lips against the mouthpiece of a telephone.

Do not use a towel, napkin, table or bed linen which have been used by another person, unless they have been boiled or otherwise disinfected.

The home, the office, the workroom, the street car, and all assembly places, should be kept well ventilated. The young, the elderly and those who are weak, should be particularly protected from being chilled or wet.

So far as practicable avoid crowds in subway cars, at mass meetings, theatres, moving-picture shows or other gatherings, even at the expense of a little loss of time or convenience.

One should avoid over-eating, especially if after doing so, one may be exposed to cold, chill or rain. Proper selection of food and exercise in the open air, particularly walking, are helpful in increasing one's power of resistance to disease.

Dry sweeping on the platforms of subway and elevated stations, in factories, stores, as well as other public places, and the shaking of rugs in public places, are dangerous.

So far as possible avoid becoming fatigued.

One's hands should be washed before eating. Patronize only such restaurants as are clean.

Care of the Sick.—Those who feel ill and whose symptoms suggest an attack of influenza, pneumonia, or other infectious disease, should promptly go to bed. This precaution alone will frequently shorten the attack and prevent dangerous complications.

Stay in bed at least two days after the fever, in influenza, has subsided.

A person suffering from these diseases should have a separate room and should sleep alone.

A sick person should cough, sneeze, or spit into a handkerchief; or better still, into a small piece of gauze or cheese-cloth. Such gauze or cheese-cloth should be burned. Handkerchiefs, pillow cases, bed sheets, bed covers, and gowns should be disinfected by boiling. If for any reason boiling is not practicable, such linen which may contain the infectious discharges from the nose, mouth, throat and lungs should be disinfected by soaking in a 5 percent carbolic solution for at least 2 hours.

All visitors should be kept out of the room occupied by the sick person.

All dishes, glasses and other utensils used by a sick person should be used exclusively by that person, and should not be used by any other individual until they are washed in boiling water.

In all cases, a physician should be called in and no patent medicines or advertised

remedies should be employed. One never knows at the beginning which case will turn out to be a mild one and which a very serious one.

Protection of Children.—The above precautions apply both to adults and children, but the department wishes to emphasize precautions for the protection of children.

Each child should receive daily an individual handkerchief or clean piece of muslin. No child should be permitted to handle a handkerchief or muslin cloth which belongs to another person.

Pencils, toys, and other objects should not be placed into mouth. Fingers should be kept out of the mouth.

Avoid wetting of feet, or chilling of body especially when perspiring.

Children should sleep alone when possible; they should not be crowded in the homes or elsewhere.

They should be kept away from children's parties, moving-picture shows and similar assemblies.

Children should not be overclothed, particularly when indoors.

Cleanliness, fresh air in the living room, good and sufficient food, clean teeth and mouth, and plenty of sleep keep the body strong.

No child with fever, running eyes or nose, sore throat or cough, or otherwise ill should be allowed to go to school.

Members of the family who are ill, should as far as possible remain in a separate room and away from children, and have their own towels, toilet articles and eating utensils.

It is especially urged that so far as possible children should not be kissed when influenza or colds are prevalent.

BOARD OF HEALTH,
ROYAL S. COPELAND, *President.*

A man might as well talk of going on his honeymoon alone as hope to accomplish any good by worrying.

ACTIVE PRINCIPLES VERSUS GALENICALS

"The advantage of prescribing that active principle, for which a galenical is selected, rests upon the fact that the numerous associated principles composing the crude drug are eliminated and many objectionable results thereby avoided."

This sentence, or words to the same effect, might have been written, more than twenty years ago, in the old ALKALOIDAL CLINIC, say by Doctor Waugh, who, indeed delivered himself time and time again of the same sentiment. As a matter of fact, however, the above sentence was penned by a prominent physician in the "City of Brotherly Love" who has made the discovery that tinctures, fluidextracts, and other galenicals are not reliable in potency and value; that the crude drugs from which they are prepared often are far from uniform and pure, and that in any case it would be much more satisfactory, both to the physician and to the patient, to employ active principles, the action of which is definite and uniform, and to do away with the unscientific and clumsy old-time prescribing of galenicals.

This preachment by Dr. Henry Beates Jr., as found in *The Medical Record* for August 31, makes this impression, that active-principle therapeutics is being recognized more and more freely by men prominent in their profession; and, really, Doctor Beates' argument is a splendid arraignment of the unreliable galenics, as, also, a masterly vindication of the use of active principles. Until recently, however, the great leaders of medical thought had committed themselves to the condemnation of the little seed sown in Ravenswood more than a quarter of a century ago. They insisted on prescribing galenicals and on rejecting the "alkaloids" as frauds and worse. *Ergo,* these alkaloids and worse did not exist in "decent" practice; and, again *ergo,* they are just being discovered for actual practical use, although they have been known to exist, of course, as scientific curiosities.

However, let's not cavil at the manner in which this "new" gospel is being preached. The important point is, that it is sealed and delivered and passed on to medical publicity, so that the general practitioner may feel perfectly ethical and all right in his long continued use of these same old friends of his that he has employed, lo these many years. They have received, at last, the justification and benison of authority.

Doctor Beates compels his readers to recognize the fact that too commonly galenicals are prescribed, properly named, but, of unknown potency or value; also, that failure to obtain logically anticipated results is almost the rule, notwithstanding

administration of these galenicals in the usual, conventionally adopted doses. In explanation of this fact, he relates certain personal experiments and observations, undertaken years ago, and according to which tinctures of aconite, nux vomica, digitalis, strophanthus, obtained from different druggists, varied so constantly in their potency that many times the "conventionally adopted" dose was necessary to secure the physiological effect. Moreover, on permitting these same galenicals to stand on the shelves for a year's time, it was found that they had lost from 20 to 60 percent of their original therapeutic potency. Further, the unreliability of galenicals is brought home to the reader, by being told that the crude drugs not only vary materially in their active-principle content, but that, too often, cheap and inferior crude material is utilized for the preparation of tinctures and other galenicals. For illustration, Doctor Beates himself purchased belladonna leaves at prices varying from 40 cents to 2 dollars per pound. Needless to insist that the 40-cent variety did not produce a tincture of very prominent atropine content. Finally, even the latest revision of the U. S. Pharmacopeia fails to lay down definite and scientific rules for the preparation of galenicals; as a result of which, these preparations cannot but be inexact in composition and drug-strength. Consequently:

"As galenicals are today, it is imperative that the clinician, in order to obtain positive and unquestioned results, *test the particular medicament he is administering* (italics in original) and thus learn and know what definite effects a given dose, other things being equal, will certainly accomplish."

But, may we ask, why go to such lengths of cumbersome and time-robbing tests for the safeguarding of the notoriously unreliable galenicals, when it has been admitted by the author himself that it is far better to prescribe the active principles in their stead? The objection that these active principles are, now, prescribed in impotent quantities hardly holds good, since the dosage of alkaloidal tablets and granules has been determined, not for massive effect, but in order that the full drug action, for each individual patient, may be secured, without risk or danger, by the repetition of small doses up to the desired point. Doctor Beates, however, is quite right in expressing his astonishment that at this present day the medical profession remains content to rely upon an armamentarium that has been handed down from generation to generation, with apparently no, or at best very feeble efforts at betterment.

To use Doctor Beates' words, the time has arrived for the effort to be exerted for establishing scientific methods for the manufacture of medicine that will possess a uniform and standard degree of physiological potency. But, may we add it? this goal has been reached years ago; these definite drugs of standard and known potency have been prescribed and dispensed by many, very many general practitioners; and, their patients have reaped the benefits of such scientific prescribing, while the great medical thinkers of our country have remained content to prescribe useless galenicals and (therefore?) to decry to use of medicines itself as unavailing. Please remember, that therapeutic nihilists are not among the general practitioners, who are mostly enthusiastic and capable therapeutists, but, among the teachers and great clinicians; those who refuse to admit recognition to new things, unless they are proposed with their own approval. At last the medical world is waking up to the possibility of prescribing intelligently and, therefore, successfully. There is yet hope for sick people.

We owe a great debt of gratitude to Doctor Beates, for bringing these new-old truths out into the light again, at a time when men are laying aside the old prejudices and seeking for the truth.

Leading Articles

Fragilitas Ossium, With Report of Three Cases*

By FRANK L. ROSE, M. D., Jackson, Michigan

FRAGILITAS ossium may be defined as a disease or a defect characterized by abnormal brittleness of the bones, with a tendency to fracture on very slight provocation. It was first described in 1838, by Lobdell, who named it osteopsathyrosis, the Greek equivalent of fragilitas ossium. It is also known as Lobdell's disease. Though the term is often used to denote brittleness of bone from any cause, as, for example, old age, tumors in or adjacent to bone, syphilis, osteomalacia, et cetera, it is not so used here, but, as the name for a distinct pathological entity, and is so used by most writers. This condition may be grouped with rickets, osteomalacia, and osteogenesis imperfecta, since all are characterized by a disproportion between the animal and mineral constituents of osseous tissue; but, clinically as well as pathologically it differs from all the others of the group; from rickets, in the fact that bones break and do not bend, so that the resulting deformity of fragilitas ossium, if any, has nothing in common with those of rickets, namely, no craniotabes, no bowlegs, and no spinal or pelvic distortions. Nor do these children show other associated signs and symptoms that so frequently accompany rickets.

Osteomalacia, a process of absorption of normal mineral matter of bone, is almost wholly a disease of adult life in women, occurring almost exclusively during gestation. It may be said to be practically unknown in this country. Between osteogenesis imperfecta and fragilitas ossium, however, the line is less clearly drawn, and many authors seem to consider these terms synonymous. However, in osteogenesis imperfecta, the fractures occur *in utero*, the bones are extremely small, and very rarely, it is said, does the child reach its second year of life. The two conditions seem of equal and extreme rarity, there being but 130 cases of genesis imperfecta on record, according to Keen, while about the same figure would seem to hold for fragilitas ossium.

Three Personal Cases

The three cases which I am now reporting are all in children of the same family and have all been, at various times, under my observation and care as the fractures occurred and until firm union was in each case secured. I have represented these cases, together with others of which I have a history only, by the accompanying chart, which requires brief explanation (see page 814):

The perpendicular are ancestral lines, or lines of descent. The horizontal are family lines, that is, showing brothers and sisters of the same family. The squares represent male, the circles female, the shaded those who have shown evidence of osteopsathyrosis, the white those free from it, the figures in parentheses showing the number of fractures sustained, while the figures not enclosed are for convenience of reference, only.

Record of the Fuller Family

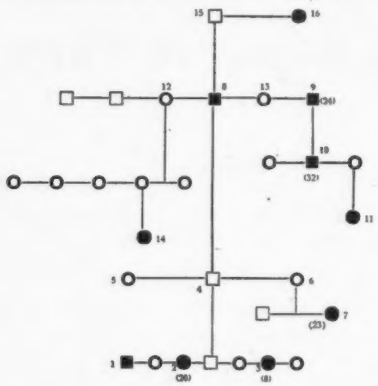
The Fuller family of Jackson, Michigan, consists at present of:

a. George Fuller (No. 4 on the chart), aged 51, laborer, of good health and

*Read at the annual meeting of the Michigan State Medical Society, June, 1918, and reprinted from the August issue of *The Journal* of the society.

physique. He has sustained, in his lifetime, two bone fractures, one of the clavicle and one of the left femur; but, as, according to his report, both were the result of violence sufficient to fracture normal bone, I have not included them.

b. The mother (not represented on the chart), has given birth to 8 children—7 liv-



ing, one stillborn, from abruptio placentæ, last winter. She has had no abortions nor is there any record of broken bones in her family. This brings us to the three children whose cases I am now reporting.

c. Jay (No. 1 on the chart), aged 18, of good physique, somewhat below normal height and weight, has suffered thirteen fractures, only one of which, namely, the last one, occurred under my observation. A fracture of the left radius and ulna healed without deformity or loss of function. The fractures preceding these have been on the thigh, humerus, clavicle, tibia, and fibula, and only one has resulted unfavorably, namely, that of the lower end of the right humerus, and in which deformity of the elbow resulted, although retaining perfect function. His first fracture occurred at 1 year and the last one at 15 years of age.

d. Alice, aged 15 (No. 2 on the chart), has had about eighteen or twenty fractures. The first, that of the left femur, was discovered nine days after birth. Whether present at or before birth, is not known. The last two, involving the right tibia and fibula, occurred simultaneously at the age of 14. Her second fracture was one of the right femur when she was 2 years of age, after which no further fractures occurred until the age of 10, since which she sustained the remainder of the eighteen or twenty fractures that occurred at irregular intervals and from trivial causes. At one time, since I have been treating her, she broke both bones of both legs while walking along a cement sidewalk. All her fractures that have come under my observation since she was 11 have been of the legs, about 6 inches below the knee, except one, in which, in addition to the leg-bones, she broke the right olecranon in falling.

e. Lois, age 7 (No. 3 on the chart), has had eight fractures, the first two at 6 months of age, and these have also been mainly of the legs and from slight falls. None of the other children have ever broken any bones, but, are normal, healthy children, as are also the afflicted ones, except for their tendency to sustain fractures.

The two sisters of George Fuller (Nos. 5 and 6), have been wholly free from the disease, but, the daughter of one of them, No. 7, aged 20, has had twenty-three fractures, none of which have occurred during the past two years. One of these fractures resulted, I understand, in a false joint in the femur.

The father of George Fuller (No. 8 on the chart), had a few fractures, and one of his brothers, No. 9, had twenty-four, and of this man's children, one son, No. 10, had thirty-two, the last one at about 30 years of age, while a granddaughter, No. 11, had several, the exact number, though, not being known.

Of the two sisters, Nos. 12 and 13, neither had fractures. One never married; the other married and bore five healthy daughters, but, the disease reappeared in the next generation, in No. 14. The paternal grandfather (No. 15), was free from the disease, but, a sister, No. 16, was said to have sustained so many that she became dwarfed and distorted and traveled with a circus as a human curiosity. However, it seems that she married; but, whether she left descendants or not, my informant did not know. I may add that, according to Mr. Fuller, multiple fractures have been a family trait for more than 100 years.

These fractures possess no special features of surgical interest, unique and remarkable though they are when viewed as phenomena of heredity or of perverted

metabolism. The x-ray, when employed, as it was, under most of those under my care, showed the fractures to be invariably transverse; therefore, adjustment and retention were easy, and, for the same reason, the fractures were relatively painless, though by no means absolutely so. However, they showed a marked tendency toward angular deformity, which in one case necessitated refracture, and which resulted in decided improvement, although not in complete restoration of normal contour of the limb. All writers agree that most of the victims of fragilitas ossium grow up with more or less deformity, from faulty union, and it must be remembered that in cases of fracture of the lower limbs they lose much time from school.

As to the Cause

No one can be confronted by these deplorable accidents thus occurring in such great succession nor contemplate the fell course of this unique and sinister disease through generation after generation without experiencing a lively desire to learn something of the cause and its pathology, and, if possible, of its treatment. If he turns to the literature of the disease, however, he will find it most meager and disappointing. The most complete discussion I have found is in Osler's "Modern Medicine", first edition, in Emerson's article on fragilitas ossium. Warthin's discussion in the "Reference Handbook of Medical Science", third edition, is brief, but, more satisfactory than most of the others, since this author devotes some space to a discussion of the pathology of this disease and quotes one author, who explains it as due to a deficiency of internal secretion.

Reports in periodic literature consist mainly of details and in only one, that I have seen, has any scientific study of any particular case been undertaken. In that case—described by Bookman, of New York, and reported in *The Archives of Internal Medicine* (vol. 8, p. 675), the metabolism in a case of multiple fractures was carefully studied. In this case, it was found that calcium was excreted in large amounts through the urine. The significance of this fact, as I view it, will presently appear.

Phosphorus Deficiency, and the Thymus as a Possible Factor

No one, so far as I know, has suggested the thymus as a possible factor, and, in mentioning it as such, I should like to have it regarded as a suggestion merely, and as nothing else; the functions of the gland not yet being fully enough understood to enable one to make any positive assertion. It would seem to be fairly well established, although not undisputed, that the thymus exerts a regulative action on the supply of calcium salts to growing bone, thymectomy in growing animals and in at least one reported case in a 2-year-old child having been followed by softening and bending of the bones and the usual phenomena of rickets. These symptoms, when occurring in thymectomized animals, are promptly removed by reimplantation of the gland. That phosphorus is the element thus withheld is shown by the fact that calcium is excreted in unusual amounts; which, of course, must mean that the calcium which normally should combine to form calcium phosphate is compelled, by the absence of phosphorus, to form other, soluble compounds and, so, be excreted.

Further study of the physiology of the gland, which, Sajous claims, is a prime source of phosphorized compounds, is necessary to show whether the hypothesis I have ventured to suggest has any value or not.

Discussion

Dr. Haass: A metabolic study of such a disease is very inaccurate because of the difficulty of measuring the exact intake and output of calcium. In a case under observation there was a constant calcium deficit and it was not influenced by feeding glands having an internal secretion. However, feeding calcium does have some beneficial effect.

After Thirty Years—VII

Notes and Reflections on Life and Work

By WILLIAM RITTENHOUSE, M. D., Chicago, Illinois

(Continued from October issue, page 744.)

Consultations

IN grave cases, consultations between physicians are desirable and should be resorted to more often than they are. If rightly conducted, these consultations are a source of confidence and satisfaction to the patient and his friends, no less than to the attending physician. They give the former the assurance that nothing tending to his welfare has been neglected, while for the latter they tend to divide and lighten the burden of responsibility by sharing it with a colleague. The latter consideration may be far reaching in its effects, especially where a case terminates fatally or results in permanent disability or deformity. When a mother is taken away from the children that need her care and they are left to the tender mercies of the world and a stepmother, the doctor who tried his best to save her life may feel many a pang of regret when he looks at the helpless brood; however, this regret will be untinged with self-reproach if he feels that the responsibility was shared by the best consultant available and that every resource of science was brought to bear to avert the sad catastrophe.

Many of us have known the humiliation of seeing, from year to year, among our clientele some old fracture or dislocation that despite our best efforts resulted in deformity or disability. If we had the help of counsel at the time, we are more likely to have a clear conscience, to say nothing of feeling better protected against that *bête noire* of the surgeon, the suit for damages.

The laity sometimes have peculiar ideas in regard to consultations. A baby had pneumonia. The father suggested a consultation; but, I soon found that his idea of it was, to call in a doctor in my absence, get his diagnosis and see whether it agreed with mine. I suggested that it would be more to the patient's advantage if we examined the child together and then consulted as to the treatment. The man replied that that would make it possible for the doctors to cover up each other's mistakes, and that they would agree as a matter of course. I told him that his frankness was more conspicuous than his intelligence. Such big words were beyond his depth and he looked at me with a nonplussed air that reminded me of the story about Professor Huxley and the Billingsgate fishwife. The great scientist was, one day, passing through that famous market where tradition says that we may hear the English language in its purity from the lips of woman. Examining the layout in one of the stalls, Huxley questioned its freshness, whereupon the presiding woman turned loose upon him her choisest battery of vituperation. When at last she paused for breath, he cut in, calling her a troglodyte, a dinotherium, a glyptodon, a bifurcatable hypotenuse of a trigonometric dodecahedron, and a score of other scientific and linguistic polysyllabics. Utterly dazed, the jaws of this expert in tongue-bombardment dropped, and she just blinked at him, entirely crushed and vanquished.

What Consultations Should Not Be

As a matter of fact, doctors are not infrequently called to see a new patient, only to find, upon arrival, that another doctor already is in charge and that the people wish an opinion without the latter's knowledge. Such treachery to their physician would merit a severe rebuke, were it not that they are acting thus partly from ignorance and partly driven by extreme anxiety. Of course, the doctor who is thus called to another's case should absolutely refuse to examine the patient or express an opinion, while suggesting that the proper way to get his opinion is, to have him meet the family-physician in consultation.

Apropos of the subject of consultation, there is a story, that, while quite old, still, is good enough to bear repeating. A wealthy old gentleman had some chronic disease and called a council of several doctors to deliberate on his case; but, entertaining some doubts as to whether they would frankly tell him just what his chances were, he

took the precaution of concealing his valet in a closet off the consultation-room, with instructions to listen carefully to all that the doctors said. Then, after they had departed, he asked of the man: "Well, what did they say about my getting well?" "Why," replied the valet, "they didn't say anything about that, at all. They were talking all the time about how big a bill you would stand for without kicking."

A request from a patient or his friends for a consultation should not be regarded by the attending physician as an expression of lack of confidence in himself, nor should such a request from the physician be viewed with alarm by the patient as an indication of extreme danger. The public should be educated to the idea that a consultation, to be of real value, should be held before the patient is in imminent danger. They should also be taught that the function of the consulting physician is not, to sit in judgment upon the attending physician's diagnosis and treatment and then to announce his decision to the patient and his friends. Another common error is, the idea that the consultant necessarily is possessed of greater skill than is the attending physician. Of course, it is usual and desirable that for consultant some one of long experience and acknowledged skill should be selected, and, indeed, in certain conditions and diseases, a specialist in that line is chosen. However, this in no sense belittles the skill of the attending physician, while in one respect he has an advantage over the consultant, in having had the progress of the case under observation from the beginning. For this reason, his contribution to the consultation is of great value, in fact, indispensable.

The real reason for a consultation is pithily expressed in the old proverb, "Two heads are better than one." It is the recognition of a principle constantly governing the decision of weighty questions in the world of business, law, politics, war or what not. In such affairs, the combined counsel of several minds is found necessary, and even more should it be so when life itself is at stake.

Black-Sheep Consultants

Consultations are sometimes discouraged by the attending physician, because he fears that he may not get justice at the hands of the consultant, and it must be admitted that too often there is ground for this fear. The medical profession unfortunately contains a few black sheep, and they are not all found in the humbler ranks. We have, probably, all had the experience of having a consultant so conduct himself as to ingratiate himself with the family and sooner or later supplant the family-physician. The ways taken to impress the family sometimes are very cunning. One man will make an imposing display of unnecessary instruments or apparatus, another will deliver a pompous lecture, with a great show of knowledge, still another will refer to his overwhelming practice.

The Only Right Way

When a doctor has acted as a consultant in a case, having been called by the attending physician, if he should be urged by the family to take charge of the case, there is but one honorable answer he can give, and that is, a firm refusal. If the request comes some time afterward, in another illness he must decide according to the circumstances, always treating the other doctor as he would wish to be treated himself. If his acquaintance with the family was solely due to the attending physician's introduction, it is difficult to see how he could supplant him without losing his self-respect. Of course, the family have an undoubted right to change their physician, but, a doctor also has an undoubted right to refuse to do anything that might cost him the respect of his colleagues.

Some years ago, I sent a pregnant woman to an expert, for an examination and an opinion. During the remaining months of her pregnancy, this man called twice at the woman's residence and urged her to come to his office for another examination, asserting that he wished to study her case more closely, because it presented some unusual features. She informed me that in these interviews, while he did not directly ask her for an engagement, he always talked as if he took it for granted that she would come to his private hospital for her confinement. When labor set in, he sent his assistant with a carriage to bring her to his hospital. How he knew that labor had begun, I never learnt for certain, but, I suspected that he had engaged, as a scout, a woman who lived in the same building as my patient and who probably notified him when labor did set in. My patient sent the assistant and his carriage back, with the message that when she wanted the services of Doctor Blank she would send for him. The next time I saw

the doctor, I told him plainly just what I thought of him, and in doing so I developed a fluency and grace of expression of the possession of which I was not aware. No, friends, I will not give my exact words, because this journal has to pass through the United States mails. This man was, at one time, a high official in the American Medical Association and well known in the profession. Such conduct from such a man seems unbelievable, yet, it all happened just as here described. He was too orthodox to hold consultation with a Homeopath—the gnat was too much for him, but, he swallowed the camel without winking.

How to Go About It

The request for a consultation may properly come either from the patient or from his family or from the attending physician. The selection of the consultant usually best is left to the attending physician, because he is better able to judge of the fitness of the available men than any layman can be. The layman has no very reliable means of judging any doctor's skill. As a rule, his opinion of a given physician is based upon the laudation or criticism of some neighbor or friends. There are instances where the family desires the advice of a former family-physician or of a doctor that is a particular friend, and such requests should always receive courteous consideration.

The attending physician has an undoubted right to refuse to meet any doctor whose methods are dishonorable or whose ignorance or quackery would render a consultation valueless.

The question of meeting in consultation with any of the socalled irregulars may, I think, be safely left, as the code leaves it, to the judgment and common sense of each individual physician. It requires no great amount of intelligence to see that, if a Homeopath, for instance, were a strict adherent to the doctrines of Hahnemann, a consultation between him and a regular could have little value, because it would be a foregone conclusion that they could not agree on treatment. This is so patent even to the laity, that such a meeting rarely is asked for. However, most socalled Homeopaths, nowadays, are not strict followers of the teachings of Hahnemann, and they give any remedy that they believe will benefit their patients. While I think that their position would be stronger if they abandoned the name "Homeopath," that has not prevented me from meeting some of them in consultation when it was particularly desired by a patient, and I have never found that either of us was contaminated or sacrificed his self-respect by the contact. On the contrary, we learned tolerance from each other, and many of them today are my personal friends, just as I have personal friends among men differing with me in politics or religion.

How to Conduct a Consultation

The manner of conducting a consultation is a question that well may be left mainly to the good sense of those holding it. There are a few points which, however, experience has shown to be important.

The consulting physician should, of course, make his own examination of the patient in the presence of the attending physician; whether in the presence of the patient's family or friends, is not a matter of importance. After the examination, the doctors should retire for consultation, which should be absolutely private, because the average layman knows just enough about medicine to misunderstand the discussion that must take place. The medical men should not be hampered in this discussion by the presence of anyone not entitled to a part in it. If such a one should ask to be present or intrude his presence without asking, it is the consulting physician's part to request him to withdraw, as the attending physician might hesitate to give offense by so doing.

If difference of opinion arises in a consultation, every effort should be made to deal with the matter in a conciliatory spirit, and both parties should be willing to concede considerable rather than to announce an irreconciliable disagreement. Such a statement would be very prejudicial to the welfare of the patient, besides hurting the profession in the eyes of the public, who are but too ready to cavil at doctors' disagreements.

If reconciliation proves impossible, then the fact must be reported to the family and such action decided upon as may seem best under the circumstances. They may have such confidence in the attending physician that they will wish his views to be carried out; or they may ask for another consultation with a different personnel; or they may ask to have the consultant take entire charge of the case. The latter outcome creates an unpleasant situation all around

If the consultant was chosen by the family in the first place and after the consultation they wish him to take charge of the case, the attending physician had better retire gracefully. They have the right to change doctors. If, however, the consultant was introduced to the family by the doctor in charge, then he can not play the part of a supplanter without losing his self-respect and the respect of his friend, who called him in.

After a consultation, thoughtless people sometimes attempt to confront the consultant with such questions as: "Does our doctor understand the case?" "Has he been using the right treatment?" Or they may ask their own doctor: "What does he think of the case?" "Did he order any change in the treatment?" To cut off all such improper questioning, the doctors should, immediately after the consultation, jointly call together in a room those entitled to know and give them as full information as is consistent with the welfare of all concerned. This is what they pay for and what they are entitled to. I have known consultants to depart after a consultation, without a word to the family, leaving the attending physician to do all the explaining; and I have known it always to cause a feeling of disappointment and resentment.

The prognosis is really the point in which the family are most interested and about which they ask questions most eagerly. But, while a reasonable regard should be had for their anxiety, it is well, as a rule, to remind them that this is not the most important object of the consultation; that, rather, as physicians, we are more interested in the practical questions of whether we correctly understand the disease and whether we can improve the treatment.

If the proper cordial relations obtain between the consulting physicians, the attending physician may ask the consultant to talk to the family, either alone or in the presence of himself. If he is tactful, he may do much to strengthen their confidence in their doctor and set at rest their anxieties. This is a matter of no small importance, for, if they give their doctor their full confidence, he can accomplish far more for the patient than he can in an atmosphere of suspicion.

If changes in the treatment are decided upon at a consultation, they should not be made at once, but, introduced gradually. Human nature is so prone to suspicion that an immediate change is almost sure to be interpreted as a sign that the former treatment was wrong. However, it is seldom that conditions are such that an immediate and radical change is necessary.

[*To be continued.*]

2920 Warren Ave.

The Treatment of Chronic Diseases

Diseases of the Nervous System

By GEORGE F. BUTLER, M. D., Wilmette, Illinois
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(Continued from October issue, page 758.)

Chorea

CHOREA may be regarded as the counterpart of epilepsy; the obverse manifestation of the same fundamental nervous instability. These two conditions, in fact, bear about the same relation to each other in the neurophysical realm that melancholia and mania do to each other in the neuromental field. Hence, it is not surprising that, just as we have manic-depressive states in mental diseases, which partake of the qualities both of melancholia and mania, so we have epileptoid-choreic states in nervous diseases, representing a mingling of epilespy and chorea, so that a definite diagnosis sometimes is very difficult, if not impossible.

Fundamentally, then, the objective of the treatment in chorea is the same as that of the management of epilepsy; namely; to assist the organism, both by removing all sources of irritation and nerve leakage, and also by positive therapeutic measures, in order to establish its nervous and biologic equilibrium. And so far as the negative side of this therapy is concerned, it is the same in both. In the question of positive therapeutics, however, the means to be em-

ployed in typical chorea are, of course, precisely the reverse of those that we employ in typical epilepsy.

As a first measure in chorea, then, we must, as in epilepsy, go over the patient's entire anatomy and physiology, and remove or correct every source of nervous irritation or nerve drainage. And these will be found to consist in about the same general class of focal disorders as in the other disease. Chorea, being a biological disease, usually is attended by a set of physical stigmata such as errors of refraction, malformations of the rhinopharyngeal passage, defective metabolism and elimination, and the like, all of which must be corrected or compensated if the patient's organization is to have a full and free opportunity to restore its own nervous balance. And, as often as not, a proper attention to this negative side of the treatment, together with good hygiene, is sufficient for a cure; for, there seems to be a more ready disposition on the part of this exalted phase of nervous instability to right itself than is true for the debased phase, just as there is a greater disposition for an elevated temperature to drop than for a subnormal temperature to rise to normal.

Treatment of Chorea

The positive measures employed by us to assist the nervous system in regaining its poise as intimated, are in a typical case of chorea just the reverse of those used in a typical case of epilepsy, because the deviation from the normal is toward the opposite side. In epilepsy, the gross, physical elements of the body are exaggerated at the expense of the finer, the nervous and mental, elements. Consequently, we train down the former and allow the latter gradually increasing play, sedating the brain only to the point of steadying it. In chorea, the nervous and mental elements are exaggerated at the expense of the physical, so, we build up the latter and give the former all the physiological rest we can procure for it.

The great *sina qua non* of treatment in chorea is rest. Without it, all other treatment is useless. With it, the patient often will recover in the absence of any other treatment. The child not only should be taken out of school or removed from its work, but, actually put to bed or at least be made to lie down and sleep several hours during the day. If necessary, it is permissible in this disorder, if anywhere, to procure a requisite amount of sleep by the use of soporifics, such as passiflora or chamomile-tea. Every hour of sleep that those patients get adds to the chances and subtracts from the necessary time of their recovery. Refractory children whom their parents are unable to control should be removed from the care of their parents and put either in a hospital or in charge of some disinterested but impartial person. For, moral control is, of itself, a great aid to recovery.

The second requisite is fresh air, which is quite as important in this disorder as it is in tuberculosis. Choreic children should practically live in the open air day and night. If this can not be done in its completeness, it should be carried out as nearly as practicable. The same active provisions should be made for it as we insist upon in the care of tuberculous children. Sea-air is ideal.

The third essential is good nourishing food and plenty of it. In this respect, also, the choreic should be treated like the tuberculous. He should be subjected to forced feeding. This is not always easy, for, at first the choreic patient has a very poor appetite, and it is as hard to make him eat as it is to get the epileptic to refrain from eating. A little patience and tact, however, usually will overcome the difficulty. But, if it cannot be done in any other way, the nutriment must be given for a time by rectum or as an emulsion or in any other practicable way.

One of the prime indications of improvement in the choreic, as in the tuberculous, is that they gain in weight. The diet must, of course, be simple, easily digested, and yield the maximum of nourishment for the minimum of work. Fresh eggs, milk, cereals, bacon, green vegetables, cooked fruits, and occasionally broiled lean meats should form the staple of their food. They must, on no account, drink coffee or tea; cocoa is an excellent drink, if it agrees. Due regard must meanwhile be paid to the elimination of this foodstuff. Choreic children, the same as epileptics, are constipated as a rule, and, furthermore, they usually eliminate their protein-products with slowness, the urine being scanty and of high acidity. It is necessary, therefore, as a rule, to give them mild stimulative cathartics, such as ipecac, nux vomica, and cascara, with an occasional laxative saline in the morning—

for example, sodium phosphate. The kidneys may be stimulated with alkaline and citrous drinks.

In our drug-therapy, the same principle holds. If the case be a frank and typical one of chorea, as distinct from epilepsy, our remedies should be designed to build up and mildly stimulate the nervous system, while at the same time soothing and sedating the mind. Such calmatives as we give for the purpose of controlling the choreic movements are mere temporary measures and should be directed either to the muscles themselves or to the spinal neurones. Gelsemium and macrotin are the best drugs for this purpose, if given in quite full doses. Since the movements cease during sleep, the ideal way to procure rest for the muscles is, to procure sleep for the patient; and this is also a prime, fundamental therapeutic measure for the restoration of the nervous balance. I repeat, therefore, that, if ever there is justification for the artificial forcing of sleep by any means short of actual habit-forming narcotics, it is in the treatment of chorea. The oldfashioned practice of boiling chamomile-flowers and giving the patient infusion to drink is a capital one, in that it not only induces a wholesome sleep, but, improves the appetite and digestion.

At the same time that the function of the brain is being rested to the greatest possible extent, the nerve-tissues themselves are to be built up and the nutrition of the body stimulated by arsenic, of which the best form is Fowler's solution. I agree with Doctor Sachs that, if this drug is to do any good in chorea, it must be given in larger doses than is generally recommended, especially at first. I am in the habit of giving it to children between eight and twelve years old in doses of 8 or 9 drops twice or thrice daily, until they begin to complain of abdominal pain, when I gradually reduce the dose to the maximum of tolerance, and keep it there until marked improvement shows itself It is a good idea, however, to combine the arsenic with an alkaline and a mild bitters, such as milk of magnesia and gentian, to make it more tolerable to the stomach. The anemia is best combated, not with iron, but, with nuclein, which, with the arsenic, makes an excellent hemopoietic.

As convalescence progresses, of course, the patient may be allowed more and more exercise and permitted gradually to assume an active relation to life. But, it is a great deal better to be a trifle too slow about this than a bit too hasty; for, a little delay will hurt nothing, while a day's undue and premature hurry may set the patient back for several weeks.

Consistent with the biologic nature of the disease, choreic patients often are the victims of congenital endocarditis and valvular disease of the heart; or they will be found to have suffered from tonsillitis and attacks of acute rheumatism, which have affected the heart-membrane. These conditions must be properly treated. Arsenic, however, is an indicated remedy in them all.

Paralysis Agitans

(*Shaking Palsy. Parkinson's disease.*)

There are no known means of influencing shaking palsy, the pathology of which is but little understood. The disease runs an exceedingly chronic course, mostly terminating in an intercurrent affection, and recovery has never yet been observed. The most that can be done is, to maintain good hygienic conditions and to control the tremors by means of lukewarm baths, gentle massage, and faradization, and by the internal use of gelsemium and hyoscine. It is well to give Fowler's solution or chromium sulphate or ergotin, with a view to retarding, if possible, the degenerative process, whatever it may be. But, no further benefit can be expected than the partial control of the tremor and general nervousness, as above stated.

Hysteria

From a clinical standpoint, there is more than a mere difference of degree between minor and major hysteria. There is the much more vital difference that in the former variety the control of the paroxysms is still within the power and will of the patient, while in the latter the whole affair has got beyond the reach of the woman's conscious volition; the therapeutic significance of this is, that in minor hysteria the aim of our treatment must be, to arouse, by whatever means seems most appropriate to the case in hand, the will of the patient; whereas, in major hysteria, we must direct our attention to the subconscious element. To be sure, even in minor cases, we are obliged to work indirectly, since the patient almost never *wishes* to overcome her trouble (therein differing markedly from the major patient, who would gladly overcome it, if she could); we must, in fact, surprise

her into exercising her will-power, and this often has to be done by rather rigorous, not to say violent, measures, such as would destroy the last vestige of our influence over the major patient.

Hysteria is essentially a mental disorder and calls for mental treatment. Medicines are of little or no value. Here, the physician is, himself, the medicine, and, unless he possesses the necessary tact and patience to array himself in a continuous and resourceful battle of wits, he had better not undertake the treatment of such a case. In minor hysteria, as intimated, the constant aim of his treatment is, to break through the patient's guard and to be indirectly arousing in her some antagonistic phase of her will, that is, to get her unwittingly to take action against her own condition. Pages might be filled (and often are rather foolishly filled) with minute details of how to accomplish this end. But, the fact is, there are no set ways and means of doing it.

Each case is a law unto itself, and success depends upon the acuteness of the physician in taking advantage of the exigencies of the occasion and the temperament of the individual patient. Ridicule, anger, indifference, fear, surprise, all are useful aids in the case of various patients and at various times in the same patient. An attack often may be cut short by the judicious administration of an emetic or a sharp purge, since it is impossible for the patient to maintain an interesting pose or to sustain a battle of mind with her attendants at the same time that she is obliged to vomit or empty her bowels. The same result often is attained by dashing a glass of cold water in her face or by saying or doing something to arouse her anger or by affecting to take her condition with extreme gravity and talking ominously of the necessity for an immediate surgical operation. These and all the other hundred and one methods that are commonly cited have the same underlying psychic objective, namely, breaking through the patient's guard and enlisting her own will-power in breaking the spell.

These measures may, also, be made to have another salutary effect. Inasmuch as hysterical patients of the minor type invariably indulge in their attacks in the presence of another person (as a rule some sympathizing relative or friend—which seems to be an essential element in the process) it is well that the "exposure", so to speak, should also take place in the presence of that same observer. In this way, the subtle element of imposition and play for sympathy, which forms so large a part of the condition, is destroyed. Withal, the physician must manage to achieve all of this difficult and delicate task without losing any of the real confidence and friendship of the patient; for, if he forfeits this, his influence is at an end.

In short, the matter may be summed up in the statement that hysteria, like most of these functional nervous disorders, is a biological condition. It is a species of infantilism. It exhibits itself chiefly either in adolescent girls, in whom the child is struggling violently with the woman for supremacy, or else occurs in older women of an infantile type, in whom the child is always dominant. (Frequently barren women, with infantile generative organs, who have never borne children.) Its treatment, therefore, is essentially the treatment of unruly children who are "spoiled."

Major Hysteria

Medicinal and even surgical treatment is not infrequently called for. Genuine uterine troubles may lie at the root of the disorder and demand correction. In typically infantile cases, extract of corpus luteum often works wonders. In all cases, it is important to maintain good elimination, both by the kidneys and by the bowels, and to avoid harmful mental excitement. Valerates and monobromated camphor sometimes are useful in sedating the overwrought nervous mechanism.

Major hysteria is a much more serious and difficult affair to handle. These patients should never be treated in their homes. It is almost impossible to do anything with them while sympathetic and fussy relatives and friends are in the way. They should be removed to a good hospital or sanitarium and put in the care of experienced attendants who know how to manage them. And, really, this and a sedulous care of their diet and of elimination is about all that can be done for them in the way of physical treatment. The rest is purely psychic and moral.

As stated, the physician's influence must be exerted altogether through their subconsciousness, so far as their disorder is concerned. It is useless to try to arouse their own will against it, for, they have no conscious will in the matter. It is in-

advisable, even, to discuss their disease with them at all. But, by constant, unwavering kindness and care, the patient's confidence must be gradually and unconsciously won, so that she comes to know that her doctor and her attendants are her genuine friends. And, finally, when, through this subconscious process, her will is reestablished and can be brought to bear upon her condition, it will be found that it is readily and even eagerly enlisted on the physician's side, and can usually be relied upon to head off future attacks. But, if another attack occurs, the same patient painstaking process must be gone through with again, until she finally develops mental power enough to carry her along without any recurrences. Never at any time should the slightest alarm or fuss be manifested about her condition, and especially when she is coming out of one of her seizures nobody should evince in her presence the least concern about it or look or speak as though anything out of the way had occurred. And, upon sending the patient to her home, her parents and associates should be admonished to maintain this same attitude toward her.

The Anatomy and Physiology of the Stomach

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Editor *The Buffalo Medical Journal*, Captain, M. R. C.

(Continued from October issue, page 762.)

The Exploded Tidic Theory of Digestion

A FURTHER point in regard to reaction may be mentioned. It has long been taught that the urine shows tides of alkalinity, corresponding to the withdrawal of acid radicles from the blood during the period of gastric secretion, and of acidity corresponding to the alkaline secretion of the intestine and its tributary glands. This may be denied, except in an academic and quantitatively negligible sense. The denial is based upon two reasons: (1) Actual titration of the urine in hourly or 2-hourly periods shows that the timehonored and very plausible theory accepted for a century or more simply isn't so. (2) If we remember that the tidic theory is based upon an exploded theory, that gastric digestion lasts for a fairly definite period of several hours, at the conclusion of which the stomach empties itself all at once into the intestine, whereupon an alkaline digestion begins and continues for a definite period, we can easily see why it is no more correct in theory than in actual fact.

The two kinds of digestion occur jointly, except that the acid type is limited to certain periods after meals and has intermissions, whereas the alkaline type proceeds almost continuously. Furthermore, chemical radicles, either acid or alkaline, abstracted from the blood are very soon available for reabsorption, so that the blood never departs much from a normal standard.

Comments on the Foregoing

The foregoing statements, however, require a slight qualification. For example, a hyperchlorhydria with ischochymia that prevents the rapid absorption of acid radicles into the blood, plus a failure of coincident secretion by the liver and pancreas, would, theoretically, cause an increase in the alkalinity of the blood and either a marked diminution of activity or an actual alkalinity of the urine. Practically, we do encounter cases of hyperchlorhydria with such a tendency of the urine away from its normal acidity, though not, in my experience, with actual demonstration of the explanatory factors mentioned. Conversely, marked hyperchlorhydria and especially achylia gastrica, should result in an enormous increase in urinary acidity; but, this connection I have not observed practically.

It is obvious that hydrochloric acid is, ultimately, derived from chlorine compounds ingested, this ingestion being almost entirely in the form of chlorides, and mainly in the form of sodium chloride. The liberation of hydrochloric acid from a basic

chloride, in the laboratory, ordinarily is effected by the addition of sulphuric acid, so that we may truly say that the secretory power of the acid-secreting cells of the stomach is equal to the chemic energy of sulphuric acid. Theoretically, and to a considerable degree practically, hyperchlorhydria is controllable by a limitation of salt in the diet; still, as in similar problems of producing or supplying a deficiency generally, the organism may hold on to its existing supply—or, in other instances, fail to avail itself of an artificial source of supply of a deficiency—for a long time.

As has been demonstrated by Pawlow, although long understood on inductive reasoning, anything that requires a given secretion or function tends to develop that secretion or function, while anything that does not require it tends to its abeyance. Hence, a considerable ingestion of salt and of proteid, especially meat-proteid, as a rule is accompanied by hyperchlorhydria, while a diet rich in carbohydrate and fat discourages this secretion.

On this general principle, is founded the dietetic treatment of hyperchlorhydria and the reverse. But, it should be recognized that an excess of salt, sugar, starch or fat may, and often does, immediately irritate the stomach into producing a still greater excess of hydrochloric acid, so that an excess of proteid may, by fixing hydrochloric acid, diminish the net activity, and that, as in anemia, the mere furnishing of raw materials of favorable conditions for a certain physiologic result, may not produce that result.

It has been taught for some years that hydrochloric acid is secreted by peculiar, granular cells, of which only a few are present in any given gastric tubule. These, from their supposed function, are called oxyntic, or acid, cells; from their location, rather less directly in contact with the lumen of the tubules, parietal. In distinction, the more common type of cells lying directly on the lumen are supposed to secrete ferment and are called chief or peptic. Recently, there is a tendency to deny the essential difference of these types of cells.

In passing, it may be remarked that lactic acid was for a long time considered the secretion of the stomach. Actually, it is merely an adventitious result of bacterial fermentation, it is not concerned directly with proteolysis, and is not even especially derived from milk, although produced from lactose, but, also, from carbohydrates generally.

It may also be pointed out that hydrochloric acid is not particularly associated with gastric ulcer. Ewald collected a large number of analyses which showed that about half of ulcer-cases were accompanied by normal acidity, about one-fourth by increased acidity and about another fourth by diminished acidity.

Ulcer, either gastric or duodenal, does not tend to develop as the aftermath of a series of cases of hyperchlorhydria, nor does a series of ulcer-cases present any marked influence of prior hyperchlorhydria. The belief to the contrary may be explained as follows:

Almost everyone has an excess of hydrochloric acid at times, from dietetic indiscretion or some form of emotional disturbance. In addition, a great many conditions, as of the appendix, gall bladder, and in fact of almost any viscus, not to mention disease in general, may more or less accurately follow the symptomatology of hyperchlorydria. Thus, of course, any one imbued with the notion that hyperchlorhydria and ulcer are closely related can elicit a history of antecedent hyperchlorhydria in all patients presenting themselves for ulcer, except those who are dumb, who cannot express themselves in a language understood by the questioner, who have never paid any attention to their symptoms, or who have maintained previously an absolutely normal gastric physiology.

Pepsin

The only other well-demonstrated gastric secretion is pepsin or, according to most authorities, pepsinogen, the latter activated into pepsin by hydrochloric acid. So far as my observation goes, pepsin is always present if there is any secretion of hydrochloric acid at all, and I do not remember ever to have demonstrated the presence of pepsinogen in patients who had absolutely no secretion of hydrochloric acid —reference being made, not to free hydrochloric acid, but, to hydrochloric acid in any degree forming protein combination even if immediately fixed, so as to leave no excess of free acid.

The practical moral—subject, of course, to contradictory evidence in any conceiv-

able future case—is, that one need never give pepsin unless there is a definite proof of its absence; that is to say, in cases of achylia gastrica.

Achylia gastrica occurs in two pretty sharply contrasted types; temporary defects of secretion from chilling, the depression of general diseases, some form of shock, and so forth, in which the stomach should be allowed to rest, and permanent cases, in which neither artificial supplying of hydrochloric acid and pepsin nor any other treatment has, in my hands, effected relief. In most of the latter type of cases the subjects maintain good general health for years, the stomach merely acting as a macerating chamber preliminary to intestinal digestion; and, indeed, even in health, the actual amount of protein digestion carried on by the stomach probably amounts to only about 10 percent of the total. When intestinal digestion fails, when half or more of the small intestine has been removed or when for any reason the food does not pass through half or more of the small intestine (as after short-circuiting operations) nutrition gradually fails.

Denial of Rennin

The statement that the only well-demonstrated secretions of the stomach are hydrochloric acid and pepsin, will, undoubtedly, be criticised as an ignorance of the existence of rennin. The implied denial of the existence of rennin as a distinct entity rests upon a double line of argument.

From the theoretic aspect, there are three significant facts to consider: A pure ferment has never been prepared. Not only has pure pepsin or pure rennin never been prepared, even on a laboratory scale, but, no extract ever has been prepared that could be considered as a pepsin plus inactive impurities, but, free from rennin, on the contrary.

All proteolytic ferments, even of a vegetable nature, coagulate milk. Milk-globulin (caseinogen) is the only substance used as a food for which anyone has claimed an exclusive coagulant or even an exclusive ferment of any kind. The practical argument against a separate rennet-ferment is, that, in thousands of examinations, it is only occasionally that even the most cursory tests appear to show the presence of peptic power without milk-coagulating power, or the reverse. Once in a great while, one finds an apparent instance of proteolytic gastric juice that does not coagulate milk or the converse. In the former instance, the chances are that the milk has been rendered noncoagulable by pasteurization at too high temperature or has spoiled. In the rather remote past I made notes of a few stomach contents that would peptonize albumin, but, would not coagulate milk. None have been found after controlling the sample of milk. Similarly, apparent instances of milk coagulation without peptonizing power have been explained, since the necessity of controlling such reactions has been appreciated, on the following grounds:

In some few instances of carelessness, the peptonizing and milk-coagulating power were both absent; but, the latter was marked positive from using a sample of gastric juice to which an excess of hydrochloric acid had already been added previously to the digestion-test, so that coagulation occurred from the acid and not from the ferment; in other instances, there was a slight coagulating and peptonizing power, but, the first was noticed, while, from using stale coagulated egg-albumin or relying merely upon the apparent lack of dissolution of the mass after incubation, it was assumed that peptonization was lacking. All controlled tests have shown that the peptonizing and coagulating functions were either both present or both absent.

As to the Lipolytic Ferment and Ptyalin

Within the last few years, quite a little has been written about the fat-splitting power of the gastric juice. This is admittedly of very small degree and of no physiologic or clinical importance. Even theoretically it is probable that there is no such function and that the apparent exceptions noted by delicate tests are explained either by the liberation of fats by proteolytic digestion or by the connective-tissue envelope and some degree of emulsification in the warm contents of the stomach, or by the adventitious action of microorganisms, or by the penetration of pancreatic juice, bile, and intestinal juice past the pylorus.

Another important digestive function that occurs in, but, neither of nor by, the stomach, is that concerning carbohydrates. Ptyalin of the human saliva digests starch, through various dextrin stages, into maltose, the latter a double dextrose. Human

saliva is able to digest only cooked (not merely boiled) starch, probably because it can not dissolve the film of cellulose, while able to digest the liberated granules of starch. The saliva of monkeys and grain- and nut-eating rodents can digest raw starch. The pancreas contains a ferment, amylopsin (or possibly, as for peptic and rennin action, this is merely one phase of activity of a general pancreatic ferment) which digests both cooked and raw starch, although, like ptyalin, only to the stage of maltose.

Whether there is any essential difference between ptyalin and amylopsin or whether the difference is merely one of strength, does not appear. It may be pointed out that the only form of raw starch commonly ingested in any considerable amount in this country, is bananas, and that, beyond mere traces or on account of peculiar habits of eating, the only other form of raw starch taken, even in appreciable though practically negligible quantities, is derived from nuts.

Under ordinary circumstances, the fact that between 50 and 100 Grams of raw starch remains in the stomach undigested, awaiting its attack in the intestine, does no harm whatever. Kellogg has shown that, by very thorough mastication and insalivation, 150 Grams of cooked starch may be digested into maltose at a meal, so that the entire carbohydrate ration could be attended to by this function.

Ordinarily, 50 to 90 percent of starch digestion awaits intestinal digestion. Theoretically and to a large degree actually, hydrochloric acid in full normal proportion or increased in hyperchlorhydria, inhibits ptyalin digestion in the stomach. Practically, sugar is always found in the stomach contents, unless starches have been omitted from the test meal or unless the examination is made very late after a meal. Even in hyperchlorhydria, sugar is present in considerable amounts. So far as I know, the quantitation of sugar in stomach contents has never been standardized nor applied practically.

It will be noted that, whether from the digestion of starch into maltose, by the ingestion of milk as lactose or by the routine use of saccharose, the sugar available is in the form of a double hexose, whereas, the simple hexose (dextrose) is required by the liver for the glycogenic function. It is, therefore, a very plausible though, so far as I know, not a well-demonstrated claim, that the stomach and the intestine secrete some ferment that converts double into simple hexoses.

In passing, it may be remarked that the glycogenic function is one of the most clearly understood physiologic principles, but, that, even in connection with diabetes and glycosuria, it is almost never applied clinically. If one will simply remember the ordinary accepted physiologic teaching and make the obvious application, great light may be thrown upon many puzzling phases of sugar metabolism.

Absorption

The description of the glandular lining of the stomach shows clearly that it is not well adapted to absorption. Volatile substances of foreign nature, such as alcohol and various other poisons, may be absorbed from the stomach. So far as water, salines, and foods are concerned, absorption undoubtedly occurs, although of negligible extent. Superficial evidence to the contrary is based on the rapid rhythmic passage of stomach contents through the pylorus.

If by going without pork I can save a Belgian baby, I am perfectly willing to do it, and I will feel a great deal better for it, and so will you. There is no need for any of us to starve, either here or abroad.—Harvey W. Wiley.

The Reeducation of the Blinded Soldier

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[*Continued from October issue, page 747.*]

British War-Blind

ENGLAND profited by the experience of France in the solving of her problems of reeducating her blinded soldiers. She learned from them that the training must be thorough and professional—not well-meant efforts of amateurs. A blind man's work must have commercial value and his training should not be considered complete before he possesses a fair speed. The best teacher is one who is an expert at the trade taught and who himself has become blinded. No product should be turned out that depends upon charity and sentiment for its disposal. Another point that the French taught the English to consider is, the selection of work of such quality that the blind man may excel the seeing man in its execution; for, the blind man has the following qualities well developed: (1) Nicety of the sense of touch; (2) unbounded patience; (3) pride in excellent workmanship.

Therefore, work demanding exactness involving repetition of processes is best suited to the training of the blind man. It is difficult for the blind man to learn to make different parts and to put them together, but, repeating a large number of processes, identical, requiring careful finishing lies at the basis of his success[1]."

The keynote of the training school provided by the British for their disabled soldiers is, "Hope welcomes all who enter here". What the average blind soldier is most determined about is, that he shall not live an idle life. Most of these soldiers still have fifty years of life ahead of them.[2]

In England, the government met the demand for systematic training of the disabled by appointing a committee of inquiry, of which Sir George McMurray was chairman. Meanwhile, the pressing demand for treatment and training was supplied by private aid; as, at Lord Robert's Memorial Workshop and St. Dunstan's Home for the Blind. Voluntary funds tided over the difficult period before definite help was secured from the state.[3]

Finally, a statutory committee, consisting of twenty-seven members, was appointed. There are representatives of the Crown, the Royal Patriotic Fund Corporation, the War Office, the Admiralty, other government-officers, and of labor. Some of these are women. The function of the committee is, to perform duties in connection with pensions, to provide for care of disabled men, including hospital training and employment; to give aid to widows and orphans that were dependent upon men killed in battle. The state voted one million pounds for this purpose, and did not aim to supplant the private institutions, but, to cooperate with them.[4]

The blind have a capable friend in the generous Sir Arthur Pearson, who himself is blind. By courage and determination, he 'taught himself to be blind", as he so well expresses it. Sir Arthur visits every soldier as soon as he is brought to the hospital and in ten minutes he changes the poor soldiers' outlook upon life. Their quiet despair and boundless misery is changed to hope and courage as the knowledge, that much employment still is in store for them, is unfolded to them by a man who himself is blind. In April, 1915, he opened St. Dunstan's Hotel, the magnificent house and estate of Mr. Otto Kahn, a well-known American financier. This estate has a history. It was built by the Marquess of Hertford, who figured as Lord Steyne, the lover of Becky Sharp in "Vanity Fair." The history which our blinded heroes add to it will increase its historical interest.

This wonderful house has been enlarged, owing to the sadly increasing number of blinded soldiers.[5] It is known as the "happiest home in London." This institution is partly maintained by the Institute for the Blind, the British Red Cross, and the Order of St. John's of Jerusalem.[7]

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[1]Monthly Review of Bureau of Labor Statistics, 4: 851, June, 1917.

[2]American Journal of Care for Cripples, 5: 125.

[3]American Journal of Care for Cripples, 5: 95.

[4]American Journal of Care for Cripples, 5: 105.

[5]Pamphlet: "How They Are Being Taught to Be Blind." Introduction.

[7]Journal of American Medical Association, Dec. 25, 1915.

The grounds are fifteen acres in extent and an arm of Regent's Lake offers splendid rowing facilities, an exercise that is so beneficial to blind people. Sir Arthur Pearson said that rowing is one of the sports that make the blind men feel that they are conducting other people instead of being conducted by them. The hostel is managed by the Blinded Soldiers' and Sailors' Care Committee, Sir Arthur Pearson, chairman, president of the National Institute for the Blind; Miss E. W. Austin, secretary of the National Institute for the Blind; C. E. Rose, St. John's Wood, N. W., H. Stainsby, Sec.-Gen., National Institute for the Blind; Miss I. G. Mace, St. Dunstan's Regent Park, N. W. Besides, there is an advisory council for giving advice, and assistance when called for.

Besides St. Dunstan's, Regents Park has been loaned to Sir Arthur for the period of the war plus six months. This college could well donate its accommodations, because the war has called away its students. This loan permits extension of the work carried on at St. Dunstan's as the number of blind increases.[9] The following spacious and desirable annexes have been placed at the disposal of Sir Arthur: the College, Regents Park, 12 Sussex Place, N. W.; West House, Portland House, and 104, Queens Road, Brighton; 40 Lee Terrace, Black Health, Bournbrook, Wells Wood at Torquay, Nervington House Hostel at Edinburgh.[10]

The annex at Torquay is used for those blind that remain only temporarily at St. Dunstan's and who need a quiet rest before taking up their work of reeducation. Men that are learning massage live in another house, which is a present from Mr. A. Kilby to the National Institute for the Blind and who, in turn, have loaned it to Sir Arthur Pearson. Two houses in Portland Place are used as residences for officers that have lost their sight. Sir Arthur and Lady Pearson are in charge of one given up by Sir John, while Lady Maxwell and friends of the Pearsons are in charge of the other. The officers in these houses are single. Married officers live in apartments close by and attend St. Dunstan's as day-pupils.[11]

Members of Sir Arthur's staff visit the blinded soldiers in the hospitals daily. The newly blinded man is lifted from the depression he has felt by the prompt comradeship offered him. He is told that absence of eyes does not necessarily mean lack of vision, and hope and courage rise in his bosom at the stories of success of his fellow victims.[12]

The blind men have learned that, although much has been taken from them, yet, more is left, and they live their lives with happiness and gay courage. They know they have done their part in conquering a foe that attempted more than to rob them of their sight.

By arrangement with the War Office, the blinded soldiers are sent to St. Dunstan's upon their discharge from the army. Everything that man can conjure for their comfort and their schooling is done. There are now more than 400 inmates at St. Dunstan's and its annexes. More than 225 have been trained and established in business, having learned at least one of the following occupations: massage, shorthand-writing, telephone-operating, boot-repairing, mat-making, basket-making, joinery, poultry-farming, bee-keeping, and market-gardening. The Australian and Canadian authorities encourage their men to take training at St. Dunstan's before returning to their home. There are in Sir Arthur's hostel blind soldiers from Canada, Australia, New Zealand, South Africa, Tasmania, and Newfoundland.

Besides learning an occupation, nearly all the men learn to master braille, to use the typewriter, and to do some sort of netting-work. Those who learn shorthand as a means of earning a living learn typewriting as part of their occupation; but all the others are persuaded to take typewriting, because the penmanship of a blind person deteriorates at a rapid pace. Men who never used a typewriter before becoming blind learn to strike the keys correctly within a few weeks. A typewriter is presented to each soldier when leaving the school; he also is supplied with some braille literature, while the National Library for the Blind has made arrangements to loan the soldiers books free for life and the National Institute for the Blind has undertaken to defray the postage.[14] A copy

[9]Pamphlet: "How They Are Being Taught to Be Blind," pp. 2-3.
[9]Report of St. Dunstan's, p. 2, 1917.
[10]Letter Head at St. Dunstan's.
[11]Report of St. Dunstan's p. 2.
[12]Report of St. Dunstan's, p. 2.
[13]Report of St. Dunstan's, p. 2.
[14]Report of St. Dunstan's, p. 2.

of Ivanhoe printed in braille runs into six foolscap volumes.[15]

There are a few paid orderlies and trained nurses at St. Dunstan's, but the staff consists principally of voluntary aid detachments, called C. A. D.'s. The foreman in each workshop is a seeing man, most of the instructors, though, are blind and entered the institution just a few months previous to the entrance of their students.

This arrangement of pupil-teachers has a stimulating influence upon the newcomers. The honorary superintendent of the workshops is Mr. C. E. Rose. Miss Dorothy Paine is superintendent of braille and typewriting. Each pupil makes rapid progress, because he has an individual teacher. There are more than a hundred teachers who have offered their servics voluntarily. These unselfish devoted teachers make light of obstacles and appear daily at their tasks.[16]

The actual reeducation is divided into two sections: classroom work and that of the workshop. Those who are in the classroom in the morning are in the workshop in the afternoon, and *vice versa*. The hours are short: from 9:30 to 12:00 and from 2:30 to 4:30. It is necessary to alternate the work, because the mental strain upon the blind is great, so that, in the long run, more is gained by the change.

Netting is not taught in the workshop except in connection with braille and typewriting. It is not considered an industry, but, offers busy-work for these beginners, who can not concentrate for more than a half hour at a time. It is a pleasant occupation indulged in during spare time and the men take their "netting" with them when they attend weekly debates, concerts, or other forms of entertainment. They learn to net hammocks, string-bags, fruit-bags, and railway-sacks.[17]

Sensitiveness of touch, intelligence, and past education determine how much time a man spends in the classroom in learning braille and typewriting. A blind man does not acquire the sense of touch immediately. About 10 percent of the men never learn braille, because they can not; almost every man, though, learns typewriting.[18] Indeed the typewriter originally, was intended for the use of the blind. Joinery is taught in the workshop. The men learn to make only readily saleable articles such as picture-frames, tea-trays, corner-cupboards, and ornamental tables. The blind makes these as well as does a seeing man and their earnings from this source are very satisfactory.

The largest number of men learn cobbling. This occupation has been little practiced in later years, until it was developed at St. Dunstan's. In the course of six or sven months, a blind man may be taught to sole and heel boots as well as can a man with sight. Men who have learned this industry find abundant work and make good wages. A blind cobbler uses special instruments: one, a tiny plane for finishing the sole, one for marking the proper distance between the nails, which are hammered in. A wooden file is used instead of a shoemaker's hammer. Beginners work upon discarded boots sent in by people having no further use for them. Men in advanced classes work at stitching machines and at the finishing-table, polishing and varnishing the boots.[19] Cobblers are taught mat-making, because the monotony of mat-weaving is a good alternative for cobbling during the slack times, and, besides, constant employment is secured.

A few of the duller men learn only mat-weaving. Mats are made on a frame in the oldfashioned way. Skilled mat-makers can make a mat 12 square feet in size in a day. A strong border of beading is the usual finish for the mats. The blind have always made baskets. At St. Dunstan's, this stable industry is taught in many varieties. Men are taught to make the kind of baskets that will sell best in the locality where they expect to reside after leaving the school. Baskets are made of cane and willow; the former is much easier and lighter to handle. Often, patterns are made in colored cane. The correct color is not chosen by touch; but, by its position in the rack on the wall. It requires skill to make the large willow baskets. It calls for more cane and judgment to make the angles in a square basket than to make the round ones. No special tools are used in basketmaking, except the braille measure on which the inches and feet are marked with knots. It takes considerably less time

[15] Illustrated World, 28: 460.
[16] Report of St. Dunstan's, p. 5.
[17] Pamphlet: "St. Dunstan's Hostel," p. 2.
[18] Pamphlet: "Lite at St. Dunstan's," p. 2.
[19] Pamphlet: "St. Dunstan's Hostel," p. 7.

to teach these trades than one would imagine.

All this is due to Sir Arthur's understanding of the situation and his capability as a superintendent. He knows that the system of using blinded instructors, the short hours of employment, the ever ready words of encouragement, and the atmosphere of determination that drives away the feeling of self-pity inspires the men to make the best of things and to learn rapidly.[20] Every workshop is a scene of enjoyment. Signs for the visitors read, "Keep off the floor-mats. They serve as guides for the men." If the men bump into each other in passing, they laugh and crack a joke. They are just merry schoolboys, many of them under twenty years of age.[21]

The poultry-farm lies beyond the workshops. Men are taught to distinguish birds of different breeds by touch, to manage incubators, to dress poultry for the table, and to run a poultry-farm intelligently. This work would not keep the men always busy, so, they are taught rough carpentry. Most of them can make chicken-coops, sitting-boxes, gates, and so on. The same training is given free of charge to mothers, wives, or sisters, so that they may be of further help to the blind man starting a poultry-farm.[22] Captain Webber, a well-known blind poultry-expert, initiated this course, and eminent poultry experts—Mr. Edward Brown and Mr. Clem Watson—gave much of their time to class-instruction for men who make a promising start in this direction. The last few weeks of their training consists in putting their class-room theory into practice on a large poultry-farm which is located at Kings Langley.[23]

Massage is a special occupation taught to men that have had suitable education in the past. Massage-training is carried out on very scientific principles. The men first take, at St. Dunstan's, a classroom course, in physiology, anatomy, and pathology, and then they are sent to the massage-school of the National Institute for the Blind, and it is a modern institution in every respect. The students visit hospitals daily and are allowed to massage patients of the Middlesex Hospital, St. Bartholomew's Hospital, and the Hempstead Hospital. The authorities value this assistance. The men take the examinations of the Incorporated Society of Trained Masseurs before graduation. Then they are assigned to positions at military hospitals and common depots. Every establishment where these men have been tried out sends for more, as they are needed, and they certify that they more than hold their own with the sighted masseurs. They receive a wage of 2 pds. 10s. a week.[24]

Men that have held commercial positions before the war learn braille, shorthand, and typewriting, so that they may again fill secretarial positions. This work is difficult to learn, still, a few of them acquire in a short time the necessary speed of 120 words a minute.

Each pupil sits at his own table and is given individual instruction. An arrangement of raised dots forms the letters for the fingers of the blind man, to follow which necessitates writing on the reverse side of the sheet from right to left, so that, when taken out, it can be read in the ordinary way. This stenography for the blind is an abbreviation of braille. A roll of paper in a machine unwinds as the keys are operated. The shorthand notes are read by passing the fingers over them and then are transcribed on the typewriter. The men who have held positions have been highly recommended, and they receive higher compensation than they did before the war. The Remington Typewriter Company has built special braille typewriters, and these have been perfected in such a manner as to accommodate men that have lost one hand.[25]

The dropshutter system of telephone-operating is taught to those that have a keen sense of hearing and can tell by sound which drop has fallen. They become as competent as the operators that see. They must have a knowledge of braille and typewriting, in order that they may take and transmit messages. Whenever possible, men are taught to resume occupations that they left when they entered the war. All that have left St. Dunstan's are earning more money, when their earnings are added to their pensions, than they did before they were blinded. Only 15 percent of those who entered St. Dunstan's have left it before completing a course, and their departure was because of ill

[20] Pamplet: "St. Dunstan's Hostel," p. 6.
[21] Pamphlet: "The Joys of Second Sight."
[22] Pamphlet: "Life at St. Dunstan's."
[23] Report of St. Dunstan's, p. 7.
[24] Pamphlet: "Life at St. Dunstan's," p. 5.
[25] Pamphlet: "St. Dunstan's Hostel," p. 4.

health or else owing to bad habits. Only 2 were dismissed for bad conduct.

The reeducated men that have again entered the world of industry are being visited regularly. They are given further financial aid when necessary and a market at a central depot is found for all their goods. This supervision or "aftercare", as it is called, is not to be of temporary duration, but, is well organized and will continue indefinitely.

The system is an elaborate one, dividing the kingdom into districts, with each district having a traveling superintendent, who visits each of his men every two or three weeks. It is an easy matter for a blind man to make a mistake and to persist in it until the wrong is observed by a visitor and corrected by an expert sent to him immediately.

The family-life of the blind man is also looked into by the "aftercare" bureau.[26] Thus, the men have no dread of a dark future, and they become self-supporting, self-respecting citizens, who consider their blindness as a handicap but which they hope to overcome as nearly as possible. Such is the thoroughness of Sir Arthur Pearson's methods.[27]

The following is a quotation from *The Christian World* by the Rev. F. C. Spun: "Twice have I been to see the men at St. Dunstan's. The first visit surprised me. I went with soft tread along the gravel path as if I had been going to a hospital. A Red Cross nurse lent color to my illusion. But, upon nearing the entrance-hall, I was greeted with sounds of rollicking laughter. In twos and threes, the blinded men were moving to and fro, their leader groping for door or stepping, sometimes gaining both without a hitch, sometimes bumping into the door or into another blind man, but, always accepting the situation with cheerfulness and, even, jocularity. I came to see an institution wrapped in gloom and depression, a place where wounded men nursed their sorrow, and, lo! I found myself again at school, in the midst of boys, watching the play of youth.

That is what has happened—these men have reentered the kingdom of the child. They are beginning all over again in a new world, as new to them as was that other world into which they grew from babyhood into manhood. Once again they are feeling themselves about, holding on to things, to prevent themselves from being hurt, enjoying the rollick of life. A chair, a rope, a couch did duty in the first childhood. In this new childhood, various aids have been cleverly devised, to guide the uncertain steps of men newly passed into the kingdom of the blind. Upon the floors, at right angles, special paths of matting have been laid, so that a blind soldier following these never can go astray. On the terrace, the felt has been replaced by lead. Before steps and dangerous places are reached, planks of wood are laid down. The blind man recognizing the familiar sound of felt treading upon wood pauses and prepares for an ascent, a descent, a turn or an obstacle. When he walks abroad in the grounds, he guides himself by means of a rail. When his fingers encounter a knob upon the smooth rail, he knows he has reached a turn in the path. He can not go astray.[28]

Friends of the blind are entertained at St. Dunstan's free of charge for a week at a time. Their expenses to and from London are paid. Companionship with dear ones assists the blind to renewed effort.[29]

Through the assistance of Mr. C. E. Rose, the men are taught to play, as well as to work. Their contests consist in walking and running races and in tugs of war. They also learn to row and to swim, and they learn both well.

When rowing is out of season, they play pushball and take physical drill, and crowds of onlookers always are interested in the prize-contests. The men get a dancing-lesson once a week and have their own regular dance once a week, to which they invite a lady friend. Evenings they play dominoes, chess, draughts, and cards.[30] Chessboards have holes in the squares and chessmen have pegs to fit into the holes.[31] The men eagerly participate in debates, while many of them contribute to the St. Dunstan's Review. Nearly every blind man plays a musical instrument; some receive lessons in vocal music.[32] The braille system enables the blind to read printed music easily.[33] There are two churches at St. Dunstan's: one, the church

[26]Pamphlet: "St. Dunstan's Hostel," p. 10.
[27]Pamphlet: "Joys of Second Sight," p. 3.
[28]Pamphlet: "How They Are Being Taught to Be Blind," p. 10.
[29]Pamphlet: "Life at St. Dunstan's," p. 8.
[30]Report of St. Dunstan's, 1917, p. 9-10.
[31]Illustrated World, 28:460.

of England; the other, the Roman Catholic. Rev. C. M. Sharpe and Rev. L. G. Tucker preach in the Protestant church, while the Rev. Fr. Hitchcock and the Rev. Fr. Howell are the Catholic priests. Both churches are attended by the men.

The Voluntary Aid Detachment gives much time, thought, and sympathy to the men. The members walk with them, read to them, help them with their entertainments, and otherwise assist them. Physicians and dentists give their services free. Every part of the world has sent donations to this wonderful institution. The National Relief Fund and the National Institute for the Blind defray all the expenses at St. Dunstan's. Subscriptions from the public are used for extraordinary expenses, as, for example, paying fares (for visits) for relatives of the blind and their entertainment while there, paying for expensive apparatus, such as motor cars, typewriters, et cetera. Much of the public fund is used for "aftercare" of the men that have been trained.[32]

The government allows each blind soldier a pension of 27s 6d a week, and an additional 10s is allowed if the man is recommended by St. Dunstan's as being deserving. A further allowance of 5s a week for the first three children and 2s 6d for the fourth and each succeeding one is provided for. No pension is given for children conceived after the soldier is discharged. St. Dunstan's increased this last allowance to an even 5s for each child up to the age of sixteen, and is sending out an appeal to all the world for the necessary funds.[33]

Sir Arthur encourages the blind to marry and to surround themselves with children, in the hope that joy will be brought into the soldier's life; and, besides, England has need of sons and daughters.[34]

[32]Report of St. Dunstan's, 1917, p. 10-13.
[33]Pamphlet: "St. Dunstan's Hostel," p. 11.
[34]London Lancet, Sept. 23, 1917, p. 480.

Diseases of the Nasopharyngeal Region in Children

By C. W. CANAN, M.D., B.S., Orkney Springs, Virginia

THE longer I practice medicine, the greater are my convictions that diseases of the nasopharyngeal region are neglected by many of the medical profession. These troubles are very common in general practice, but, unfortunately, they frequently are overlooked, treated lightly or dismissed with a few general directions. This is a very grave error and I sincerely hope that this paper may so fix the subject in the minds of the readers that more thorough work will be the result; and, first of all, that physicians no longer lead parents to believe that an afflicted child will outgrow the disorder or that the symptoms will disappear about the time of puberty. Advice of this sort will stimulate neglect of appropriate treatment and is certain to prove detrimental to the physical and mental welfare of this class of patients.

It often is necessary for the practitioner to combat the belief that operation upon adenoids and tonsils will be followed by defects in speech or imperfect development of the generative organs. This fear among the laity is wholly without foundation, but, parents often refuse to have an operation done until firmly assured that no such evil results will follow.

The family physician should always remember that his duties are not confined to the treatment of an individual case or disease, but, that they extend to any and all conditions as they come to him.

Children under his care ought to, and should, be regarded as his wards from a medical standpoint. If there is a history of recurrent attacks of catarrh or mouth-breathing, a careful examination should be made, the trouble located, and the parents advised as to the suitable treatment. All the dangers should be made clear to them if treatment is neglected. In this way, and in that only, can the very best results be attained. Unnecessary delay or procrastination only can result in great damage to the patient.

Nasopharyngeal diseases may be viewed from two standpoints—that of the specialist and that of the general practitioner. The former is more likely to see a case late, after serious secondary complications

may have developed. On the other hand, the family-physician is more likely to be consulted in the early stages of these troubles, so that, if he is a careful physician, a great deal of suffering may be averted. It, therefore, is important that the possible evil influences caused by nasopharyngeal troubles generally and by adenoids in particular should be kept in mind, otherwise the treatment will be only palliative, rather than curative.

The Symptomatology

In discussing the conditions that affect the region in question, and the complications arising therefrom, I shall try to confine myself to their clinical aspects as nearly as possible, as I have seen and watched them in actual practice.

The symptoms vary greatly in different individuals. In one case, the brain may receive the force of the attack, in the second, the chest, while in a third, the circulatory or digestive system may receive the brunt of the attack. And so it is through a long list of conditions. Then, again, there may be a combination or complicated condition. So, also, in some cases, the relation between cause and effect is very plain, in others, it will require the most painstaking search to arrive at a clear understanding.

Much may be accomplished in the way of prophylaxis, by a correct and early diagnosis.

In nasal catarrh, there is first a condition of hyperemia, then inflammation and soreness of the mucous membranes supervene, and these, in turn, predispose to and cause chronic hypertrophy, adenoid growths, tumefaction of submental and submaxillary lymph-bodies, invasion by diphtheria and tuberculosis, and occasionally by meningitis.

Do not understand that adenoid growths are always the result of nasal catarrh, for, I have found them when there was no catarrh, but, the growths were a local manifestation of a constitutional dyscrasia. I believe that adenoids are congenital in a certain number of cases, for, I have found them in infants only a few months old.

Causes of Nasopharyngeal Troubles

As I have said before, I believe that the lymphoid tissue in the upper and middle pharynx, so often seen in children, is primary, while the catarrhal condition of the nasopharynx, particularly when attended by a semipurulent discharge, is secondary—an effect, and not the cause.

To facilitate our study of the subject, we must keep before us the functions of the nasopharynx, namely, that it is respiratory, olfactory, to modulate the voice, to regulate the aeration of the middle ear and also of the accessory sinuses of the frontal, maxillary, ethmoidal, and sphenoidal bones. It is easy to understand why a healthy mucous membrane is essential to the proper performance of all these functions and why a diseased membrane, with a greater or less degree of stenosis, shows its evil effects in so many ways.

I have found that at least fifty percent of the people do not have normal hearing, and that, if they have it in one ear, it often is decidedly defective in the other. This often is owing to the effect of catarrh in one or both eustachian tubes. The acuteness of hearing depends upon the patency of these openings with free nasal respiration. Then we see that unobstructed nasal breathing is essential not only for the oxygenation of the blood, but, for normal hearing and to prevent catarrhal conditions of the various sinuses. There is also another condition to be reckoned with in catarrhal conditions of this region, namely, that there is always danger of bacterial or germ infection and which very materially complicates matters. The physician should always remember that the effects are not always local, but, often are remote from the seat of the trouble. Disturbances of the circulation and nervous system may result from an obstructed flow of lymph at the vault of the pharynx and base of the brain.

Deformities of the chest, with bronchial and pulmonary congestion, often are present, while in some cases recurrent attacks of catarrhal croup occur. These patients are likely to be more liable to acute and chronic bronchitis, emphysema, asthma, and bronchopneumonia.

Two years ago last spring, I was called to see the father of four children who was ill with pneumonia. The mother asked me whether I could do anything for their two little girls, who, she said, had been afflicted with catarrh from infancy. The 5-year-old child, I found, had adenoids plus a bad nasal catarrh; the 7-year-old girl had a bad case of catarrh, with a great deal of hypertrophy, and a bad case of

otitis media on the left side and great loss of hearing. This was the first time I had seen these people. I left treatment for each patient and promised to return on the third day, it being a long way across the mountains. When I made my second visit, both children were ill with pneumonia; the 5-year-old child dying later and the oldest one recovering after a protracted convalescence.

Some Complications

If you will closely examine children that have suffered from catarrh of the nasopharynx, you will find that from 30 to 40 percent of them have enlargement of the lymph-nodes at the angle of the jaw, also of the large bronchial and mediastinal lymph-nodes. This condition, I believe, is always secondary to a morbid state of the nasopharynx. I have had under my care recently a baby with whooping-cough of unusual severity. The mother said the boy was born with a cold and had had catarrh all his life. I found this child's nasal mucous membrane badly diseased, pouring out an acrid, poisonous discharge, which produces an eczematous sore on the upper lip, that often spreads out over the cheeks and up over the nasal alæ. All of us meet with children that have night-cough, that is very distressing and hard to treat successfully. This type of cough will invariably disappear when the nasopharynx is put into a healthy condition.

Children that have suffered from nasal catarrh for years have their sense of taste and smell impaired, the voice altered to a nasal character and may produce stuttering.

A diseased condition of the eyes may be reflex or it may be the result of direct extension of the process in the nasal cavity. In the majority of cases, the extension is a direct catarrhal inflammation of the nasal cavity, either acute or chronic, and adenoids often give rise to affections of the lacrimal sac and conjunctiva.

Disturbances of accommodation, strabismus, photophobia, and pupillary changes may, at times, be of reflex origin. Only recently I had a little patient who had a diseased condition of the lacrimal canal and sac. There had existed a nasal catarrh for years and mouth-breathing. I failed to cure the lacrimal trouble until I had cured the catarrh and taught the patient to breathe.

Every physician is aware that children that suffer from an abnormal condition of nose and pharynx have scarlet-fever, diphtheria, and other acute diseases much more severely than those children that are normal. Therefore, the best preventive of microorganic invasions is, to keep the mucous membrane in a healthy state. The diseases or complications that may affect the ear are many and varied.

The worst conditions I have seen to follow catarrh and adenoids have been inflammation of the eustachian tube and invasion of the middle ear, with rupture of the drum and loss of hearing. These cases are especially benefited by treatment, not merely of the ear, but, of nose and throat as well.

Years ago, Trousseau called attention to recurring attacks of erysipelas of the face following chronic nasal and aural catarrh. These outbreaks can be avoided when the primary conditions affecting ear, nose, and throat are treated. The same I have found true for eczema and dermatitis. A close study of the lymphatic system will clearly demonstrate how microorganisms in the nose and throat can reach the meninges of the brain and produce meningitis. It is a fact, also, that the greatest number of cases of meningitis are observed between the ages of 2 and 5 years, when nasal and throat troubles are most common. I believe that these facts explain the etiology of many heretofore obscure cases of inflammation of the brain and meninges.

However, as I have mentioned before, there is a different mode of infection than that through the eustachian tube to the middle ear and thence to the cranial cavity. As a result, thrombosis and sinus-pyemia of the brain and membranes, with or without abscess, are not infrequent.

Changes of the Facial Contour

The change in the contour of the face, resulting from the long-continued mouth-breathing, is characteristic and admits of a ready explanation. The dropping of the lower jaw, owing to a functional loss of tone in the muscles, adds to the length of the face—the latter appearing longer, because of the deficient development of the superior maxilla.

Also, the nasopharyngeal obstruction interferes with the proper ventilation of the accessory sinuses, or air-chambers, as a result of which the blood supply is modified, hence, normal growth of bone does

not take place and, so, expansion is retarded.

The blood becomes poor and malnutrition is present because of the digestive disturbance. All this leaves an imprint upon the face and gives that drawn appearance of the eyes and mouth.

The facial muscles are poorly developed, and the pinched nose or distended alæ add to the deformity. These changes, taken in connection with the mental state, give rise to the characteristic physiognomy.

Mouth-breathing, because of obstruction in nose and nasopharynx, produces a high arch, with narrowing of the transverse measurement of the jaw, thus presenting a pointed appearance in front, with resulting contraction of the alveolar process. This crowding and even rotation of the teeth on their axis—as a result of the absence of the support of the tongue and of an increased atmospheric pressure upon the roof of the mouth, in consequence of the buccal breathing—explains the deformity.

We see some cases in which there is a strong tendency to stomatits and gingivitis that are very persistent until the growths are removed and the nose and throat put in a healthy condition.

Nasopharyngeal Troubles and the Nervous System

Before closing this discussion, I must call attention to the effect produced upon the nervous system by these nasal and throat conditions. Many of the children thus afflicted are inattentive, backward and dull and get on in their studies very badly. In some cases, there is pronounced nervous irritability. A low grade of headache often is a feature in children that have suffered from nasal obstruction for a long time. I have found that these children are more liable to have night-terrors, or "horrors," as it is sometimes called; are subject to walking in the sleep, to morbid dreams, melancholia, and many other evidences of disturbed cerebral function.

I could fill pages with naming conditions that arise from nasal obstruction, many of them grave, but, must come to a close, except to add a word in reference to prophylaxis.

Some writer has said that there is more danger in a dirty nose than in an unwashed face. This certainly is true, and every mother and nurse should be taught how to cleanse the baby's nose, because very few of them can do it properly and thoroughly. Preventive medicine has done much to alleviate human suffering in many directions, and it will be found just as efficacious in this condition. Thus, every physician should do his best toward this end and so prevent much suffering, as well as contribute toward the rise of a sturdier stock of human beings.

Dermatological Notes—IV.

The Treatment of Eczema

By A. V. RAVOGLI, M. D., Cincinnati, Ohio

IN handling the subject of the treatment of eczema, we must approach it from different angles. The first question is, Can eczema be cured with vaccines? Second, Can eczema be cured with internal remedies? Third, Has the hygiene a great influence in the recovery? Fourth, Must local applications be used?

The Vaccine-Therapy

Vaccine treatment for eczema seems to be the most appropriate. We have stated that pus-producing germs are the cause of the disease, hence, their vaccine ought to be able to produce artificial immunity or at least increase resistance of the organism to their infecting-power. Yet, according to Ravitch,[1] the vaccine-therapy in eczema has failed to give any good results. Many authors report good results in chronic cases of furunculosis, but, for eczema, we find no great encouragement. Bacterial vaccines may be employed in any infection

[1] Ravitch, L. M., *Jour. Amer. Med. Asso.*, 1915, No. 15.

that has a tendency to a certain degree of chronicity. As eczema seems to be a staphylococcic infection, vaccine obtained from their culture must be of great value.

Unfortunately, we do not know much about what vaccination can accomplish in bacterial infections. It seems that the autogenous vaccines ought to be preferred to stock-vaccine. In our experience, we have used the staphylococcic vaccine in two cases of sycosis barbæ of coccogenic origin, which is of the same nature as eczema. After the first injection, some fever reaction occurred and in two or three days the pustules healed up. The improvement, however, was only temporary, as pustules were formed again. Injections of vaccine-virus were repeated, without reaction and with very feeble action on the pustules. Gradually we lost confidence in the vaccine-therapy and returned to our old treatment.

In a general way, we must say that vaccine-therapy may do good and should be tried. Doctor Towle and Doctor Gilchrist have used vaccine preparations incorporated in lanolin, to be applied externally on the affected locality, and both claim good results. There still is required a great deal of study on the use of the vaccines, and also experience and knowledge of the opsonic power of the leukocytes, in order to advise intelligently the continuance or the discontinuance of the vaccine-treatment.

Smallpox-Vaccination of Eczematous Children

It will be of some interest to discuss the popular opposition to the inoculation of the cowpox vaccine in children affected with eczema. Not infrequently mothers complain that their children, to continue the school course, must be vaccinated, but, they are suffering from eczema. They go to the physician, asking if it is right to let the child be vaccinated. This is the result of experience, and the opposition to vaccination in children affected with the eczema is well taken. Obmann reported two cases of generalized vaccine eruption in children suffering with chronic eczema. Goeppert recommended not to inoculate children suffering from eczema. He found general furunculosis resulting from the vaccination, and that this was transmitted to other members of the family. We have no personal experience. We have seen many cases of bullous eruptions following vaccinations, and it is very probable that some have been produced by disregarding eczema when cowpox was inoculated.

The Internal Treatment

The second question is in reference to internal medication. It has been discussed for years. The laymen expect a great deal from blood purifiers, especially when taken in the spring of the year. Every kind of herbs and roots having diuretic or purgative properties has been administered in infusion or decoction, without effecting real improvement in the condition of the disease. If any does benefit, it can be considered imaginary—it having relieved the mental strain, with the promise of better blood and, in consequence, healing of the disease.

We have no remedy with specific action for eczema. Yet, we must use internal remedies, to obviate internal conditions, which while being no direct cause, yet, may aggravate the skin eruption. In our practice, we often find our patients troubled with constipation, with gastrointestinal catarrh, and imperfect digestion, and we derive great benefit from the use of small doses of calomel, together with sodium bicarbonate. Especially in infants suffering from enterocolitis, 1-10 grain of calomel with 1 to 3 grains of sodium bicarbonate, given two or three times a day for eight to ten days, gives very satisfactory results. Mineral waters owing their efficiency to sulphate of magnesium and of sodium are good and helpful. In cases of chronic gastric catarrh, the alkaline mineral waters of the Vichy type give good results. We do not neglect bitter remedies, like gentian and nux vomica, in cases of loss of appetite and difficult digestion. In case of anemia and of rundown system, bitter remedies can be associated with ferruginous preparations, such as tincture of iron, to build up the system and improve the nutrition. In children of the scrofulous habit, we are not opposed to the administration of codliver oil. Arsenic, as Fowler solution or as sodium cacodylate, often has been used in eczema, although, in our experience, without perceptible results. If eczema, however, is secondary, having a lichenoid eruption as its base, then Fowler's solution may prove of some benefit. In some of our cases, the use of arsenic has made eczema much worse—so much so that it was necessary to discontinue it.

In speaking of internal medication, we repeat that no internal remedy will cure

eczema; still, it will help to improve the system of the patient, by removing defects of nutrition. The organism will be more able to produce antibodies, to neutralize the toxic product of the pus-germs, and to render the skin less susceptible to their attacks.

Hygienic Management

The patient having eczema has to follow hygienic rules. Of course, everybody understands that, in order to cure a disease, the presumptive causes have to be removed. The surroundings have to be changed, the diet must be taken into consideration, and be corrected when faulty. We have seen some patients afflicted with eczema dirty, filthy, full of crusts, and saying that the family-doctor had ordered them not to apply any water under any circumstances. It is hard to trace the origin of such nonsense, or, better, prejudice. When we maintain that the origin of eczema is from pus-producing germs, it is clear that leaving dirty clothes with dried purulent matter, together with the impurities from the atmosphere, from the natural perspiration, from sebaceous matter, it must make a mixture capable to produce eczema in a healthy skin. In an acute and subacute eczema, the application of soap and water could not be tolerated, but the area can be made perfectly clean with a mild solution of borax. In chronic eczema, the application of soap, especially green soap (or tincture of soap), is found very beneficial, because it dissolves the epidermic scales adherent to the surface.

Change of air and change of surroundings. Especially in bathing-places having mineral waters rich in sulphur, in which the patient can take a bath, he may derive some benefit. White Sulphur Springs, Meagher County, Montana, and White Sulphur Springs (hot), of Iowa and Louisiana, can be recommended. Hot Springs, Bath County, Virginia, have a great reputation. They are easily accessible, with splendid hotel accommodation. At the distance of only three miles, there are the Healing Springs. The place is located in the heart of the Appalachian Mountains, and the waters are considered of great medicinal value, being nearly equal to similar waters of European spas. The principal ingredients are magnesia, sulphur, soda, and alum. The bathhouse at Hot Springs is a magnificent structure and fitted with all modern requisites for an institution of this kind. The waters resemble a great deal those of Hot Springs, Arkansas, and those of Aix-les Bains in France. The water is limpid, has a styptic taste, and an odor of sulphureted hydrogen. Immersion in the bath gives a sense of pleasant repose and the skin gets soft and smooth as if annointed with a delicate ointment. This unctuous quality may be the result of the presence of silicates and monosulphuret of sodium, besides some organic matters. In our experience, some stubborn cases of chronic squamous eczema have been greatly benefited by these waters.

The regulation of diet for us means, to correct irregularities in eating and drinking, and not, to starve the patients without any reason. Of course, if a patient is a great meat-eater, anyone with sense will advise him to cut down the meat to only once a day. His dietary will contain vegetables of every kind. Some women nearly live on candies—thick chocolate candies—and then complain of sour stomach. This must be forbidden and they must be placed under a regular mixed diet. Excessive smokers and tobacco-chewers must modify their habit. In our experience, tobacco may be a concommitant cause of eczema. Tobacco makes the individual nervous, aggravates the itching sensation, and compels the patient to scratch, which makes the eczema much worse. In the same way, the use of alcoholics must be stopped. If the patient is used to some light beer or light wine with his dinner, we do not object to letting him have this pleasure.

Change of air, some rest, leaving ordinary occupations, especially when compelled to handle chemicals of irritating qualities, quitting worrying, all may have a good influence and help to bring recovery in obstinate cases of eczema. Local treatment is of the greatest importance.

We can say that many cases of eczema are aggravated from the indiscriminate use of inappropriate applications advised by laymen, by newspaper advertisements, and also by physicians not very familiar with skin troubles. Any and every application recommended is used on the inflamed skin without discrimination of the type, of the stage of eczema, or of the anatomical region of the body affected. Applications that are valuable in a case of erythematos eczema have no effect in a case of squam-

ous eczema; and *vice versa*, what it beneficial in a case of chronic eczema cannot be used in the acute stage of the disease. Many applications useful on parts of the body without hair can not be used on the scalp or beard without caking the hair together. In this instance, it is well to discuss whether in the treatment of eczema the hairs should be cut or shaved off. In our experience, cutting of the hair in a woman with a fine head of hair is a great mistake and must be objected to. Remedies can be applied on the scalp very easily without removing the hair. We can effect recovery of eczema and save the hair, which it will take years to regain its former length. In eczema of the scalp, the secretion of the eczema, the epidermic scales, and the impurities all together will form thick crusts that will cake the hair together. Under these crusts, head-lice are soon lodged, which even the greatest attention can not prevent. Any remedy in the form of an ointment applied on that scalp will increase the irritation and the dirt, and very likely will make the eczema much more angry.

The most important thing to be done is, to clean the scalp. This is easily done by using a mixture of kerosene and olive-oil in equal parts, soaking the whole scalp with it at bedtime, and leaving the oil on until the following morning. The oil is merely rubbed off with a flannel rag; the crusts are removed as best they can by combing the hair gently. This application is repeated the following night, when, the day after, the scalp is thoroughly washed with tincture of green soap and dried. When the crusts are removed and the parasites destroyed, then we can go on and apply remedies in order to cure the eczema.

In a general way, we must warn that it is not right to say that this or that preparation is useful in eczema, if we do not give due consideration to the anatomical region involved, and the variety and the stage of eczema, especially as to whether acute or chronic. The desired action of the remedies is secured, also, by the way they are applied; some salves, for instance, being smeared over, while others are spread on gauze and applied on the affected surface. Upon the method of applying the remedies depends the result, and many times from a remedy known for its efficacy, on account of the improper way of its application, we may see the spreading of an eczema.

We have already mentioned that eczema tends to appear of different form in certain particular regions. Thus, for instance, in adults, the face is the favorite locality for the erythematous variety, the hands and feet for the squamous and fissured variety, the legs and genitals for the chronic infiltrated moist variety. It is, however, to be remembered that, whatever anatomical region is affected by eczema, the disease is always the same, as is also the treatment, with only the variation in the application and selection of the remedies.

Some Specific Directions

In a general way, an acute eczema is an inflammatory affection and has to be treated with appropriate remedies. In some cases, the use of dusting-powders (rice-starch, talc, etc.) gives excellent results. On the face, neck, scrotum, crurogenital fossa, perianal regions, et cetera, in an acute eczema, the best application is, an astringent application (as a 2-percent solution of subacetate of aluminum, or biborate of sodium, or subacetate of lead and aluminum, or Burow's solution), applied for half an hour two or three times a day on a linen compress. After the application, the surface is dried and then covered with a dusting-powder. At this stage of the eczema, the skin does not tolerate any greasy application, and every time that a salve is spread on the skin we are likely to see a relapse of the eczema.

In cases of acute eczema of the scalp, when much exudation is present, the hairs are all glued together. Here, we find very useful a mild solution of carbolic acid, as in this formula:

Acidi carbolici	dr. 1
Glycerini	dr. 1
Aquæ rosæ	ozs. 3
Alcoholis	ozs. 3

This solution relieves the itching and also diminishes the exudation.

When we need some remedy to diminish the seborrheic secretion to effect the keratinization of the epithelial cells, we can make a very soft salve of white vaseline, 1 ounce, with 15 grains of resorcin and 10 grains of salicylic acid. It is necessary to point out, never to use resorcin when oxide of zinc has been used, for, they form a mixture exceedingly irritant and there

is danger of the eczema getting much more angry. In some cases, a lotion of ichthyol, applied with a brush between the hair on the scalp, helps the cornification of the epidermic cells, diminishes the inflammation, and, after a few applications, we see the skin returning to its normal condition. This is my formula:

Ichthyolis	drs. 2
Olei amygdali dulcis	drs. 4
Liquoris calcis	drs. 4
Aquæ rosæ	drs. 12
Glycerini	drs. 12

Directions: Shake well and apply with camel's hair brush.

This preparation has given us very good results in some cases of eczema rubrum of the feet and legs. In these cases, it is better to saturate with it strips of lint and place them around the limbs and then bind them up with a bandage. This dressing can be left on for twenty-four hours, thus giving the epidermic cells a chance to cornify and begin their work of restoration of the epidermis. When the secretion is so abundant as to wet the bandage, then it is better to have it changed twice in the twenty-four hours.

In an acute eczema of the face, of the scrotum, of the genitals with abundant exudation, the wet applications of subacetate of aluminum are good; but, they can not be continued all the time. The dusting-powders soon cake, and then the patient feels uncomfortable. In these cases, we apply, with a camel's hair brush, a liniment of the following formula:

Zinci carbonatis albi	drs. 3
Zinci oxidi	drs. 3
Glycerini	ozs. 2
Aquæ rosæ	ozs. 2

The bottle must be well shaken, the lotion poured into a saucer, and applied with a brush. It forms a white layer like a varnish, protecting the excoriated papillæ and giving time for the epidermic cells to be restored. This mixture may be applied, also, on gauze, in cases of excessive exudation. It is very soothing and in acute eczema of the face and of the scalp in children has always been found beneficial.

In cases of chronic eczema, the use of salves should be recommended. The surface always must be washed with a solution of biborate of sodium, then bathed with our solution of carbolic acid (see above), to stop the itching, then is covered with the salve. Sulphur salve gives splendid results in some cases. We use a modification of the Lassar's paste, namely:

Florum sulphuris	dr. 1
Zinci oxidi	dr. 1
Amyli	grs. 30
Acidi salicylici	grs. 10
Vaselini	oz. 1

This salve is smeared over the eczemic surface and may be covered with a piece of gauze or lint. In children, especially for the face, it forms a layer, and it is not necessary to have it covered with a bandage. On the arms and legs, it is protected with a bandage, or, if the lesion is on the body, the patient may use very thin muslin underwear, which will keep the salve on. This sulphur salve, although of great value, can not be continued for the entire duration of the treatment; hence, after a certain number of applications, we change to the benzoated oxide of zinc ointment, widely known as Wilson's ointment. Formula:

Acidi benzoici	Gm. 5
Vaselini	Gm. 75
Dissolve by gentle heat then add	
Zinci oxidi	Gm. 20

This forms a creamy ointment and can be applied on gauze or smeared over the affected surface. It is soothing and protects the excoriated surfaces, giving to the epidermic layer a chance to be formed again. In some cases in which there is some infiltration or when especially near the mucous membranes, 10 or 20 grains of calomel in 1 ounce of the Wilson ointment gives beneficial results.

The old 2-percent yellow-oxide of mercury in vaseline ointment is to be recommended when dealing with eczema of the nostrils, the lips, the anus, and other localities.

In cases of impetiginous eczema of the scalp, the beard, and in children, a salve with the white precipitate of mercury is always preferable. Example:

Hydrargyri precipitati albi	grs. 15
Acidi carbolici	gtt. 10
Bismuthi subcarbonatis	grs. 30
Zinci oxidi	grs. 30
Vaselini albi	oz. 1

In cases of chronic eczema of the palms, soles, and fingers, with thick epidermic scales, and much more so when the presence of the tricophyton is suspected, the old Wilkinson ointment gives splendid results. Formula:

Florum sulphuris	drs. 2
Saponis viridis	drs. 2
Olei cadini	dr. 1

Terrae albae .....grs. 30
Vaselini flavi .....oz. 1

With this salve, we effect softening of the epidermic scales, which are soon removed. In these cases, washing with green soap helps very much, the alkaline soap of potassa penetrates between the necrotized epidermis, dissolves it, and cleanses. This same treatment can be used in cases of eczema of the fingers and toe-nails, in cases of paronychia.

In cases of eczema of the nail-bed, with paronychia, the application of ichthyol combined with the old diachylon ointment has proved useful. Formula:

Ichthyolis .....dr. 1
Unguenti diachylon hebrae.....oz. 1

This is spread on gauze and applied.

It is necessary to mention that obstinate cases of paronychia are maintained by ingrown toe-nails. In this case, the first thing to do is, to pull out the part of the nail which, like a foreign body, maintains the suppuration.

The application of mild caustics is found necessary to heal up rhagades and fissures, which, left to themselves, will never heal up. We use, for the face, a 3-percent solution of trichloracetic acid (which has nearly the same action as nitrate of silver) for touching up rhagades on the face, lips, et cetera, thus avoiding the stain produced by nitrate of silver. The latter, however, is very useful for the same purpose in places where the stain is not seen.

The grandest remedy of all in chronic eczema is, the tincture of iodine, which is applied in the same way as the surgeons do for sterilizing the skin before operating. For the first applications, we dilute the ordinary tincture of iodine with alcohol. When the skin stands its action, then we use it somewhat more concentrated. After the application of the tincture of iodine the surface is covered with benzoated ointment of zinc. This diminishes the itching, removes the layers of necrotized epidermis and removes the pus-germs, and in a short time the surface begins to heal up.

In cases of eczema of the nostrils, which always is caused by nasal catarrh, the nares must be irrigated and treatment applied. Sometimes folliculitis of the hair of the nose is most obstinate and thus maintains the eczema. In these cases epilation is a necessity—pulling out the infected hair, then touching up with 3- to 5-percent nitrate of silver solution, and then anointing the affected parts with yellow oxide of mercury salve. This is the only way to obtain a cure.

Many have spoken of the value of exposing the eczematous parts to the x-rays. We have used the x-rays in eczema, but with only doubtful results. In some cases, it seems to do good for a short time, then the eczema comes back with more severe symptoms. In our opinion, it is better to avoid x-raying, which sometimes may be more injurious than beneficial.

The use of medicated soaps on a healthy skin is to be discouraged. Some antiseptic soaps are very irritating, and, by their use, dermatitis and consequent eczema may be produced. We have used medicated soaps quite extensively, and we can say that any ordinary pure soap is to be advised as best to use. Some years ago, tar was greatly praised to finish the treatment of eczema. Tar is inconvenient to the patient, on account of the pungent odor, it soils the linen, the dressing, while sometimes after having patiently brought a case of eczema near to recovery, the application of tar has caused a severe relapse. A mild (2-percent) carbolic-acid lotion takes the place of tar with more safety and comfort of the patient.

Of course, during the treatment and afterward, bandages and pads have to be used to support varicose veins, to prevent swelling of the legs. The best bandages are those of ordinary gauze or muslin, the once so much praised rubber bandages should be abandoned as useless and in many instances injurious.

In the foregoing we have, as briefly as possible, outlined the principles of the treatment of eczema. With the few remedies mentioned, we obtain the recovery of eczema. One point, though, we wish to emphasize before closing, namely: it is not of any use to jump from one remedy to another or to order remedies at haphazard from the alphabetical list of remedies named in the textbooks. In some cases they may be useful, but, in general, will make the disease worse. Finally, the patient must be enjoined to follow the directions in the strictest manner if we are to effect recovery from this stubborn skin disease.

What Others are Doing

TREATMENT OF MERCURIC CHLORIDE POISONING

A most interesting paper upon the treatment of mercuric chloride poisoning was read by Dr. Bernard Fantus at the last meeting of the Illinois State Medical Society. The paper is published in *The Illinois Medical Journal* for September, 1918. Doctor Fantus has conducted an exhaustive series of experiments with virtually all suggested antidotes for this poison. He has come to the conclusion that the best of these is that suggested by Dr. Thomas A. Carter, first reported in THE AMERICAN JOURNAL OF CLINICAL MEDICINE for April, 1914. This consists of a combination of sodium phosphite, 10 parts, with sodium acetate, 6.6 parts. The sodium phosphite (note carefully, this is not sodium phosphate) alone is of no value, and a large excess of the sodium acetate seems to destroy the antidotal value of the phosphite. The combination, which was put out in tablet form by The Abbott Laboratories, must be nicely balanced, and when so compounded it produces remarkable results, which have been verified by carefully controlled animal experimentation by Doctor Fantus. When the Carter antidote is not available, the next best remedy is a combination of sodium hypophosphite, 1 part, hydrogen peroxide solution 2½ parts, and water 10 parts, this being devised by Doctor Fantus.

If the amount of poison is known, ten times as much of the phosphite should be given as poison was taken, and the dose should be repeated every four to eight hours for several days, in order to reduce to calomel any mercury which may still remain in the stomach. Further, lavage with a dilute solution of the antidote is advised.

In addition, to neutralize as far as possible the swelling and subsequent destruction of the kidney cells, Doctor Fantus advises the intravenous use of Fischer's alkaline solution (sodium carbonate, 10 Grams, sodium chloride, 15 Grams, to 1000 milliliters of water). Of this, 1000 to 1500 mils are administered, according to the condition of the heart, the endeavor being through this method to make the patient void large quantities of urine and to keep the urine alkaline.

INFANT MORTALITY AMONG THE COLORED POPULATION

A study of the Philadelphia vital statistics of the past two years showed the infant mortality rate for Philadelphia to have been 100.8 per living birth in 1916, while in 1917 the rate had increased to 107.6.

Writing in *The Monthly Bulletin* of the Department of Public Health and Charities of the city of Philadelphia, for September, Dr. Harriet L. Hartley says that there were 2,126 living colored births in 1916 and 345 deaths of babies under one year of age; thus making a colored infant-mortality rate of 162.2 per thousand living births. In 1917, there was in increase of 71 in the number of deaths and an increase of only 420 living births, so that the colored infant mortality for that year was 163.7 for each one thousand living births.

A survey of the colored-infant deaths in 1916 disclosed that 80 of the 345 deaths recorded had occurred in hospitals.

As regards the causes of deaths of these 345 infants, it was found that the conditions classed under the socalled congenital malformations constituted 34 percent of the deaths. The respiratory diseases and the diseases of the digestive system were responsible for 24 percent of the deaths in each class. The preponderance of congenital malformations, it is believed, is accounted for, probably—at least in part—by the general employment of the colored females, in gainful occupations. Many of these women had worked throughout their entire gestation, and only in 10 of the mothers it was found that they had been

able to limit their work to home duties during pregnancy and after.

A further reason for the relatively great infant mortality among the colored population is probably connected with the fact that not only young girls but older women are employed during the daytime, as also the prospective mothers, so that home care of the Negro babies is very unsatisfactory. Moreover, institutional care also is meager, there being only three good colored day-nurseries in Philadelphia and only two licensed baby-boardinghouses, while a great many colored women take babies in board in unhygienic surroundings.

It may fairly be assumed that these conditions as discovered in Philadelphia are typical for those births in most of the cities where there are Negro quarters, and it would be well if health departments and physicians could cooperate in improving the housing-conditions of the colored population, and especially the conditions under which the colored babies are raised.

THE PREVENTION OF BLINDNESS

The Illinois Society for the Prevention of Blindness recently prosecuted two midwives in the Municipal Court, Chicago, for failure to observe the requirements of the act for the prevention of blindness from ophthalmia neonatorum. Both were convicted, and the minimum fine of $10 was imposed in each case, as it was their first offense.

The act for the prevention of blindness in babies requires that all physicians, nurses and midwives who assist any woman at childbirth, or at any time within two weeks after childbirth, shall report within six hours to the local health authorities any diseased condition of the eyes of an infant. Seventeen schools for the blind throughout the country report that 25 percent of their blindness is due to failure to secure prompt and effective treatment for the cases of ophthalmia neonatorum. This does not include the many additional cases of partial impairment of vision.

A vigorous prosecution of midwives and doctors who do not observe the requirements of the law in the care of the eyes of the new born has been begun and is to be pushed vigorously. In this manner, it may confidently be expected, many preventable cases of blindness will be warded off. The provisions of the law deserve the fullest support on the part of physicians who should do their utmost to aid in its enforcement.

A MASSAGE-SCHOOL OPENED IN TORONTO

From *The Trained Nurse* (July), we learn that women from all parts of Canada have answered the call for masseurs and enrolled in the big training school opened by the Military Hospitals Commission at Hart House, Toronto, for the purpose of qualifying women as trained workers.

The first class on the opening day numbered 82, and the entrantes varied from young college-girls to mature women of 40, all eager to make themselves proficient in the work, that they might help mend the soldiers that have returned incapacitated and needing such treatment to make them fit again.

The course is under the direction of Sergeant-Majors Kendall and Holmes, who have been carrying on a similar course in Whitby Convalescent Hospital and Barraca Hall since February, and who have turned out 52 trained masseurs in their first class, 17 of whom were returned soldiers.

In the Hart House school, in addition to training in massage, the young women will be given instructions in orthopedic movements and medical electricity, and in a few months' time, it is hoped, a course in therapeutics will be added.

The graduates will be sent to the various military hospitals throughout the country, to treat cases of nerve injury, paralysis of the muscles, and stiffened joints, which, by means of massage and such treatment as the course includes, have been cured in scores of cases at first thought to be hopeless.

TREATMENT OF EMPYEMA BY THE CARREL-DAKIN METHOD

In the war demonstration hospital at the Rockefeller Institute for Medical Research, a number of cases of empyema following pneumonia have been treated which were of a peculiar type and presented new problems. All these patients were treated by the Carrel-Dakin method and a preliminary report is presented by Major

George A. S. Stewart in *The Medical Record* for August 10.

In some of the cases, operation was done as early as the third day after the onset of the pneumonia; while the longest period elapsing before operation was 120 days. The operations always were performed under local anesthesia with novocaine [Procaine.—Ed.] in a solution of 1 to 400.

In the early cases, the pleural cavity was not flushed out at operation. Three to five Carrel perforated tubes were placed in the cavity extending to all points, and two large short tubes inserted in order to have a free outflow of secretion and chlorinated material. With the later cases, the pleural cavity was flushed with Dakin solution at the time of operation, the large tubes were omitted and four Carrel tubes stiffened with fine silver wire were placed, endeavoring to reach all parts of the cavity. Compresses wet with Dakin solution replaced the large tubes originally used, in order to prevent a too rapid interchange of air. After placing the tubes and compresses, x-ray examination showed that the tubes reached all parts of the cavity.

In the early cases, instillations of 30 to 60 mils (Cc.) of 0.2-percent sodium hypochlorite solution were given every two hours for forty-eight hours, and, as no contraindications arose in the use of this solution, the strength was increased to 0.5-percent sodium hypochlorite, or full-strength Dakin solution. In the later cases, instillations were given every hour during the day and every two hours during the night, the amount being increased to from 80 to 100 mils of Dakin solution. This was done so as to follow more closely the necessary principles of time, concentration, and contact in the use of an antiseptic.

Dressings are made daily. A smear from the inside of the pleural cavity is taken to be examined microscopically, the cavity is flushed out, the individual tubes are tested, and fresh tubes inserted when necessary. Compresses wet with Dakin solution are then placed in the external wound as at operation, the skin is protected with vaseline compresses or zinc oxide ointment, and a cotton pad and chest binder applied. The external dressings are changed by the nurse when necessary.

In the first cases, closure took place spontaneously in from three to seven weeks, no attempt being made to suture the wounds. In the later cases, however, secondary closure was made with suture when sterilization was obtained as shown by the bacteriological curve, and in some cases by culture as well. Cultures taken at the time of dressing have been found sterile at the end of five to nine days. In this way, it was possible to terminate cases in from five to twelve days or more, the average time being about fourteen days. Primary union was obtained in about 70 percent of the cases. When secondary sterilization was necessary, this was readily obtained in all cases in a week or less, and complete closure was the final result. The secondary infections were always found to be of low virulence.

After operation, the patients were comfortable and were, in general, free from the toxic symptoms present in most empyema cases. The secretions have been small in amount and free from odor. The temperature has dropped, as a rule, after operation, and, in a few cases where it has remained elevated this has been due to the pneumonic process which was still active, or else to complications, since practically all of the cases were operated upon before a crisis or lysis.

SCOPOLAMINE-MORPHINE WITH LOCAL ANESTHESIA IN THE RADICAL CURE OF HERNIA

That local anesthesia is peculiarly suitable for the performance of a radical cure of inguinal hernia, has been generally accepted; the use of scopolamine and morphine in combination with it, though, is employed less frequently; in some communities, general anesthesia still seems to be preferred.

In *The Boston Medical and Surgical Journal* for September 5, Dr. John H. Cunningham, Jr., relates that, during the past six years he has used combined local and scopolamine-morphine anesthesia in over 500 cases of inguinal hernia and has come to regard it as the method of choice. Properly performed, local anesthesia allows the same technical steps of the operation to be carried out as when a general anesthetic is employed, and the combined use of scopolamine and morphine eliminates all consciousness during the performance of the operation, which is always preferable, both from the viewpoint of the patient and

the operator. Those that have used local anesthesia in the operation for inguinal hernia will agree, that the infiltration of the tissues beneath the fascia of the external oblique muscle simplifies the technical steps of the operation, especially in finding the sac. Moreover, following the completion of the operation, the united tissues are not subjected to the strain which must accompany vomiting, when it occurs after ether anesthesia, or the cough sometimes resulting from ether inhalation. When scopolamine and morphine are administered, the patient loses consciousness, while in bed, in a most pleasant manner, and the apprehension of taking the anesthetic, or going to the etherizing or operating room is eliminated, which is no small matter to the average patient.

The use of this combined method of anesthesia has permitted the removal of the appendix in over 80 percent of the cases of right inguinal hernia, and the operation of gastroenterostomy, gastrostomy, cholecystostomy, cholecystectomy, appendectomy, suprapubic and perineal prostatectomy, internal and external urethrotomy, hemorrhoids, and fistulae, goiter, umbilical and ventral herniae, and amputations have been successfully carried out in patients who for one reason or another, were not considered suitable subjects for a general anesthetic. Two patients, subjected to thigh amputation for arteriosclerotic gangrene, had no local anesthesia, except to the nerve trunk, and it is the writer's belief that by employing scopolamine and morphine all local operations may be performed with a much smaller amount of the local anesthetic. While no untoward symptoms have occurred in the writer's cases, other than a mild muttering delirium in some, lasting for several hours, scopolamine and morphine in too large doses is said to have a somewhat depressing action on respiration. The bad results from the use of scopolamine and morphine have been, the depressant influence on respiration, occasionally to the point of asphyxiation. When it has occurred it must be due to a rare idiosyncrasy of the patient or to enormous doses of the drug, as the writer has employed it in over six hundred cases with encountering it. Physiologically, scopolamine acts on the cerebrum, inducing sleep. It has a depressant action on the spinal cord, but, is not an analgesic. The pulse rate is lowered and respiration somewhat depressed. The pupils are dilated; the skin becomes moist, and the throat and mouth dry. The effect of the combination of scopolamine and morphine lasts 6 to 8 hours and has the advantage of not requiring post-operative injection of morphine, as so frequently occurs following ether anesthesia, and the patient has no ill effects in the post-operative recovery.

THE TECHNIC OF SCOPOLAMINE-MORPHINE ANESTHESIA IN RADICAL OPERATION FOR HERNIA

In the preceding abstract, mention is made of the preference given by Dr. John H. Cunningham (*loc. cit.*) to the combinations of scopolamine-morphine with local anesthesia in operation for the radical cure of hernia. The technic as he employs it, in the performance of this and other operations, is of interest. It is as follows: Two hours prior to the operation, from 1-120 gr. scopolamine and 1-6 gr. morphine; to 1-250 gr. scopolamine and 1-8 gr. morphine, according to the physical condition of the patient, is administered. One hour later, the memory is tested by simple questioning and the suitable dose for the next administration judged, and increased or decreased over the first dose, as conditions indicate. In the average adult, a second dose of 1-120 gr. scopolamine and 1-6 gr. morphine will be required, as little or no effect may be expected from the first dose. About one hour later, just before taking the patient to the operating room, the memory is again tested, and if absent no more drugs are given. This state of the patient is the most common. Less commonly, however, more of the hypnotic drug will be required. When this is so, scopolamine 1-200 or 1-250 grain, but without morphine, is given. After the patient arrives in the operating room, quiet should be observed, and if the light is bright a towel should be placed over the eyes. The legs and arms should be confined as for any local operation, to prevent voluntary or involuntary motions.

The solutions employed for the local anesthesia have been novocaine [Procaine —Ed.], 1-4 to 1 percent with 5 drops of adrenalin to the ounce; also, apothesine,

1 percent, or, quinine and urea; and, when none of these solutions could be obtained, cocaine, 1-4 percent. When Procaine was obtainable, it has been the solution of choice, but, apothesine has proven quite satisfactory. Quinine and urea seems the least valuable, and cocaine is to be avoided if possible.

The local anesthetic is used for the purpose of infiltrating the skin in accordance with the rules governing this method and these need not be repeated here.

THOSE UNRELIABLE GALENICALS

Some years ago, Dr. Henry Beates, Jr., (*Med. Rec.*, Aug 21, 1918) undertook a study of the galenicals by subjecting himself to severe and thorough physiological experimentation with several specimens or groups of tinctures. Thus, five specimens of tincture of aconite were obtained from five different reputable pharmacists and the same was done with tinctures of belladonna, of nux vomica, of strophanthus and digitalis. The infusion of digitalis also was investigated. This study was followed with a similar investigation with the general active principles of these drugs respectively.

The author lays emphasis on the fact that, in nature, the crude drug possesses active principles in vastly varying percentage proportions, and, hence, it must follow that the galenicals prepared therefrom must be characterized by the same variations of therapeutic power, with the qualifying difference, however, that these several principles themselves differ in solubility in the menstruum employed in manufacture.

Not infrequently they are also associated with other active principles in such proportions as seriously to interfere with the administration of a sufficient quantity of galenicals to obtain that special effect for which it is desired.

On testing the physiological activity of these galenicals by taking the conventionally adopted dose and repeating it at 40-minute intervals, the experimentor was surprised to discover that, as physiological effects failed to be secured and the doses therefore were carefully increased, quantities necessary to obtain positive results had to be taken that, prior to the experiments, would have been regarded as toxic, if, indeed, not lethal. Thus, tincture of aconite root varied from 4 to 5 of the conventional two to five-minim doses, to as many half-teaspoonful or 30-minim doses, before the characteristic slowing of the pulse, respiratory oppression, gentle diaphoresis, numbness or tingling of the peripheral sensory fibers, and the somnifacient effects were obtained. The local sensory disturbances from contact with the lips and tongue were caused before these were experienced in the extremities. Tincture of nux vomica varied from the conventional 15 to 20-minim doses to two teaspoonfuls hourly or every 40 minutes for 4 or 5 doses, before the stimulation of the motor columns of the cord and the tension of the flexors of the legs were caused. Tincture of belladonna was the least variable, and conventional doses repeated, however, 3 or 4 times, were necessary to effect dryness of mouth, flushed face, augmented pulse rate, mydriasis, and interference with accommodation.

Tincture of strophanthus was conspicuously feeble in its action upon the heart, and, frequently, before this characteristic action was secured, it was necessary to discontinue its use because the other associated active principles caused gastric disturbance, nausea, vomiting, and diarrhea. It could be taken in teaspoonful doses 3 or 4 times in the 4 hours with the certainty of causing gastrointestinal troubles, and a failure to markedly stimulate the circulatory system. With some specimens, these wide differences in potency and effects did not obtain, and this instance serves to emphasize the variable therapeutic potency of the galenicals generally.

Tincture of digitalis, like strophanthus, was surprisingly variable, and, to obtain the circulatory effects, doses were commonly so large and repetition so frequent that gastric disturbances occurred and compelled discontinuance These tinctures were set aside and a year later again subjected to a like test. This demonstrated a fact to which, if generally known, no serious attention is practically accorded, namely, and, keep this well in mind, that galenicals in a year's time lose from 20 to 60 percent of their original therapeutic potency, whatever that may have been. No wonder, then, that some tinctures of aconite root and of nux vomica could be taken with perfect safety hourly for 4 or 5 con-

secutive doses, of from 30 minims, 1-2 a teaspoonful, of the former to 2 teaspoonfuls, 120 minims, of the latter.

Recognition of these facts resulted in abandonment of the galenicals and the prescribing of those active principles for which the various tinctures were classified, as, for illustration, circulatory depressants, circulatory stimulants, spinal stimulants, mydriatics, somnifacients, spinal depressants, and so on.

Under existing circumstances, Doctor Beates demands that, in order to obtain positive and unquestioned results, the clinician must test the particular medicament he is administering in order to ascertain what definite effects a given dose certainly will accomplish.

This deduction drawn from the results of observations is logical enough if it is considered essential to prescribe and administer galenicals. The only difficulty is, that most of the remedies investigated many times are needed in cases of urgent emergency and that the patients usually might die before the testing had been completed. Doctor Beates, however, arrives at the more logical conclusion that it is better to make use of the active principles with their definite composition and action, in order to eliminate the annoying disadvantages of the galenicals that may be fraught with great danger to the patients.

ABOUT EPIDEMIC INFLUENZA (SPANISH INFLUENZA)

The present epidemic of influenza presents many peculiarities which are discussed in Supplements Nos. 33 and 34 to the *Public Health Reports,* both of which can be secured from the Superintendent of Documents.

It should be kept in mind that the designation "Spanish" only incidentally differentiates the present pandemic from earlier ones without, however, endowing it with any peculiar characteristics. The affection appears to be an influenza, though, with mixed infection present, since a number of different organisms have been isolated from the secretions and, indeed, the influenza bacillus has by no means been found present in all cases.

The symptoms in the present pandemic are very similar to those of former ones. One characteristic is, the absence of a leukocytosis during the height of the fever; indeed, a high white count during the first six hours is indicative of another disease than influenza or of a complication.

It has been observed that young people are attacked more generally than are older persons, and it has been suggested that this is due to the fact that the last pandemic, of 1889 to 1891, conferred an immunity on most of those at present over thirty or forty years of age. In view of the ease with which relapses occur, we hesitate to accept this explanation without further support. Indeed, it has seemed to us that an immunity to influenza never is very marked since it is subject to current observations that susceptible persons may fall ill to the disease repeatedly, as a matter of fact, whenever the infection is prevalent.

The most important considerations are, of course, the prevention of infection and the treatment of the disease. For the former, precautions are best taken in the way of frequent sprayings of nose and throat, with antiseptic solutions, like chlorazene, dichloramine-T, and others; also gargling; further, the avoidance of crowded places and careful regularity in one's life and habits. For treatment, the usual indications presented in a febrile disease with onset in the respiratory passages may be met. Calcium sulphide has given very satisfactory service, especially in children, while acetylsalicylic acid has reduced the pain and fever. Early in the disease, a suitable bacterin is curative in its action, while given earlier or before any symptoms arise, it tends to prevent the development of the disease even though exposure to the infection may have taken place.

WAR AND LAUGHTER

"Laugh and help win the war," said one optimist. When laughter is not silliness, when it is genuine merriment, over-riding difficulties and dangers, when it manifests courage and a mental attitude of confidence that would simply find relaxation, then is the injunction worthy of every man's attention. The value of a wholesome laugh in terms of health is undoubted."—*The Social Hygiene Bulletin.*

Miscellaneous Articles

Studies of Food Economics

Conservation of Food

TO classify foods according to their caloric value seems to us to be a mistake. The old classification of our student days we consider a much better one. Still, as there are fashions in medical practice, likewise in female wardrobes; so here each has its day and period.

Under the old nomenclature, we find food classified either as nitrogenous or non-nitrogenous. Of the first class, we have, as representatives, albumins, gelatins, fibrins, and casein. Of the second class, we have the hydrocarbons (fats) and carbohydrates (starches and sugars). In the cereal grains, we have all these elements represented. In the gluten of flour, we find that two primary elements, oxygen and carbon, are present.

Hence, when combustion, involving this material, takes place we find involved a certain number of calories. However, these calories do not fitly represent the nutritive value of gluten. The starches, sugars, and fats, in their combustion, evolve a much larger proportion of calories than does gluten. According to our present nomenclature, the former should take precedence over the nitrogenous tissues of our bodies.

In the structure of our bodies, we find nitrogenous material, minerals, and fats. The starches, sugars, and fats can not alone produce nitrogenous tissues. On the other hand, by the vital processes of the body, nitrogenous material can be transformed into fatty tissues.

Of the foods of mankind, the vegetable kingdom occupies the greatest prominence; the cereals being the most important of these.

Of the cereals, wheat occupies the front rank as to consumption. At the present juncture, there is a shortage of the wheat supply throughout the world at large. Can this shortage be made good by the use of other cereals? We believe it can! But, in order that this may result, it is necessary that the laity be properly instructed; and there are no better teachers than the doctors. They are oracles, in the eyes of the laity.

Wheat-flour possesses decided advantages over the flour of the other cereals. In the February number of CLINICAL MEDICINE we said: "The whole grain of wheat, as a food, is not superior to oats, barley or rice." As a matter of fact, a larger proportion of the human race is nourished by rice food than by wheat. However, wheat is accorded greater importance among the races of Europe and America. This is owing to a quality wheat possesses in greater measure than do the other cereals; namely, that of panification, or bread-raising power.

This bread-raising property is located in the gluten of the wheat, and this represents roughly, 25 percent of the whole grain, 75 percent of it being starch. Now, starch is starch, whether located in corn, barley, rice or potatoes, and has the same nutritive value, as we have found by separating it from each of these materials and cooking the same. Nay, we have found arrowroot-starch superior to all the others mentioned in infant feeding. At present, there is a shortage of wheat throughout the world, and, as there is but 13 percent of gluten in white flour, against 85 percent of starch, the question arises, Can we successfully substitute for a portion of this wheat-starch that from the grains or potatoes? We think it can be done; in fact, it is being accomplished successfully by our bakers, much to the advantage of the people at large. In this thought, we are but a unit among many experts. Let us quote from some of these.

Harry Snyder, in *Science*, says: "The whole wheat byproduct has no physical bread-making value, it is exactly on a par

with corn-meal or any other cereal product that has no gluten. Why, then, should we use wheat byproduct in breadmaking to conserve wheat, when corn-meal or corn-flour or other cereal flours furnished pound for pound so much more digestible protein and available energy?

"We have an abundance of corn and a shortage of wheat. Milk is a necessity as human food, also butter, eggs, and meat, and these must be produced as cheaply as possible. When man uses as a bread mixture 75 percent white flour and 25 percent corn-meal or corn-flour, then all of the wheat by-product is available as animal food, where it is more valuable than when used as human food; while, in turn, corn goes further as human food than the by-product it replaces. This certainly is a valuable and an economical substitution of corn for wheat byproduct, as it benefits both the human and the animal."

Just here, the following from Surgeon General Gorgas, of the U. S. Army, with comments by the writer, we think will not be amiss.

Surgeon General Gorgas says: "It is recognized that particular care must be observed in the composition of bread. In order to prevent sickness among the civilian population of Italy, caused by the use of whole wheat flour, the Italian government was compelled to fix the percentage of whole wheat at 85 per cent. During the Boer war, the British troops in South Africa experienced similar troubles from a like cause; due to the fact that the husks or outer covering of the wheat, irritate the membranes of the stomach [more especially the intestine—A. T. C.] and cause increased intestinal secretions."

Men and women of sedentary habits should mark well and consider this last statement of Surgeon General Gorgas. Before commenting farther, we will present the views of Dr. E. V. Collum, now of Johns Hopkins University, as expressed in an address before the National Association of American Dairy Food and Drug Officials.

Doctor Collum said: "It is time to warn against the widely heralded teaching, that the several diseases recognized as of dietary origin, such as scurvy, beriberi, and possibly pellagra, are, necessarily, due to the absence or to an inadequate supply of vitamines. [This name is improperly-applied to those indefinite substances supposed to be growth-promoting.—A. T. C.] We should remember, however, the importance of the other factors of which we have already spoken, and, in considering the stand to be taken with respect to the milled products, keep in mind that the grains from which they are prepared are themselves, singly and collectively, as they come from the hand of nature, incapable of supporting the health of an animal during growth."

We can not help believing, both from study, observation, and clinical experience, that it is, not so much the lack of the so-called "vitamines" in our food, as an inadequate supply of certain mineral elements to be abundantly found in fresh fruits and vegetables, notably potassium, that is the primal cause of scurvy possibly also of beriberi and pellagra. Many other diseases might be traced to a lack of a sufficiency of certain mineral elements in our food. Just here, we wish to quote a query of Dr. L. J. Simonton, who writes in the April issue of *The Medical Council:*

"Meat (cured smoked ham) which would resist the action of putrefactive bacteria externally for years would also resist them internally.

If not thoroughly digested, it would not readily putrefy. Can this be the case? Are we, in our effort to get vitamines from fresh foods, slowly poisoning ourselves to death with intestinal putrefaction? If so, this offers, to my mind, a fertile field for reform in dietetics. Creosote is the main preservative element in ham and is largely used, in some form, by the profession as a germicide.

Our protein must lack vitamines, we can probably get them by rearrangement of our present dietaries and still conform with calorific requirements."

But, to return to our main subject.

As we stated above, we have an abundance of corn, but, a shortage of wheat. The question for us to consider is, How can we use conjointly the two crops to the best advantage? A pound of wheat by-products used as human food supplies about 500 available calories and about 0.05 of a pound of digestible protein. A pound of corn-meal or corn-flour supplies over three times as much available energy and 75 per cent more protein.

The wheat byproduct has little bread-making value; it is on a par with corn-

meal or any other cereal product. It ferments readily, hence, favors acidosis. It likewise putrefies quickly. It is, however, excellent food for graminivorous animals, of which we have a great shortage. Hence, we think it the part of wisdom not to divert the byproduct of wheat from its proper use, as in food for live stock, and to substitute corn-flour for that of the wheat flour.

We believe a mixture of one-third corn-flour (starch) and two-thirds white flour will give as light and a more wholesome bread than that made from whole white flour. This would be a saving of wheat to the extent of 33.33 percent of our wheat supply, besides liberating a larger supply of by-product for the animal food.

The food value of corn-starch, likewise that of rice and barley, is equal to that of wheat-starch. The white flour of wheat is 75 percent starch, its gluten, as we have stated above, being but 13 percent. Less than 10 percent is required for panification of a mixture of white wheat-flour and corn-flour in the proportions stated above.

Peanut-meal is a greater tissue-builder than is corn-meal. With a proper proportionate mixture of white flour we obtain a palatable bread very nourishing to the body.

The future wheat supply has a more promising outlook at the present time, still, as a people, we should learn to economize in its use and employ as many substitutes as nutritive elements in our food supply as is possible.

There are produced, annually, in this country, 150,000,000 bushels of barley and 500,000,000 bushels of corn, much of which is wasted in the production of alcoholic liquors.

In closing let me present this thought: Let our people consume more fruit in our dietary, and they will enjoy better health, with the consequent less need of the doctor's services.

A. T. CUZNER.

Gilmore, Fla.

THE TREATMENT OF DIPHTHERIA

Your editorial on tonsillitis prompts me to say a few things which I trust will be advantageous to members of the profession. In the first place, I wish to mention that I was graduated in 1883 and was a disciple of old Doctor Muscroft, of Cincinnati, and his witty coadjutor, Doctor Mussey, and later was under Dawburn and Wyeth, of New York, serving in the surgical class of Doctor Bodine, Wyeth's successor. During my early years of practice, diphtheria and ulcerated tonsillitis were not differentiated as now, the bacterial theory at that early date not having been elaborated. However, at that time, I employed just as good bactericidal treatment as is in vogue today. I passed through many severe sieges of malignant diphtheria and the "putrid" type of tonsillitis was very common, and my results then were regarded as phenomenal.

I have been able to recognize three distinct types of diphtheria: First, we had the most common, the "cheesy" type, in which the deposit was of the cheesy, flaky character. As the disease progressed, flakes would loosen and could be removed. The second type showed a deposit that was shiny, smooth, and the membrane very tough. Thirdly, occasionally we encountered cases presenting the gangrenous type, in which the membrane assumed a blue aspect, with a most offensive exhalation. The cheesy type was most prone to invade the nares and larynx.

Before the days of antitoxin, when called to cases of diphtheria presenting the first or second type, I usually prescribed, for the toxemic fever, tincture of baptisia, 30 drops to a half glass of water, repeated every half hour or hour. I also gave mercury protoiodide, about 3-100 of a grain every hour, in powder form. If there was much offensive or ropy, stringy exudate in the pharynx, I gave, besides, potassium bichromate, in about the same dosage. In the worst cases, I often gave 1-50 and even 1-10 of a grain of mercury protoiodide. If the deposit was inclined to invade the larynx, I substituted the mercury biniodide in doses of from 2-100 to 5-100 grain every hour. If, as sometimes occurred, the glands of the throat and neck became violently swollen and inflamed, the submaxillary and sublingual, as well as the cervical, glands being involved, I gave mercury cyanide, about 1-1000 grain per dose. This is a most powerful drug, but, there is no agent in the entire materia medica that will reach down and cure these cases as will this drug.

After diphtheria has invaded the larynx, you have used antitoxin in huge doses,

but, diphtheritic pulmonitis has developed, and you have intubated the sick child, but, its lungs are filling up and its vital forces failing—then cyanide of mercury will save the child. The prompt action of this mercurial is most remarkable. As a rule, I give a dose every fifteen to thirty minutes until improvement is manifest.

Now, as to local treatment. The chloride of potassium (not the chlorate) has been my sheet-anchor. I always used a saturated solution, swabbing the throat with it every one or two hours. If the nasal sinuses were involved, I used a small syringe and injected a quantity of it up the nares every one or two hours. As a rule, in forty-eight hours, the deposit melted down and detached itself. In addition to this, in order to sustain the system and to antagonize the toxemia, I prescribed 2 or 3 grains of protonuclein every two hours.

Before the days of antitoxin, I cured my cases of laryngeal diphtheria with bromine in solution, made about as strong as the child could take it. I had the habit of always applying ice to the throat, and I still follow the practice. Inhalation of vapor from quicklime served me well in the diphtheritic membranous croup, in conjunction with the treatment described. In some cases of the flaky variety of diphtheria, in which the membrane desquamates, can be detached and removed, I have seen excellent results from a quite strong solution of diluted nitric acid. How it acts, I will not attempt to explain, but, I can say from experience, that it did prompt work in two instances.

I have passed through several epidemics of diphtheria and my record of cures will compare well with the very best. I seldom use antitoxin except as a preventive. Only lately, I employed, as a preventive, the treatment outlined in three separate families exposed to diphtheria—one a family of 10 children—and not one took the disease. I might have used antitoxin, but, did not, and the course I followed was 75 percent cheaper.

Now, as to treating ulcerated tonsillitis or suppurative tonsillitis (quinsy): In the first, I usually give 15 or 20 grains of sodium salicylate in solution every two hours and order a gargle or swabbing of the throat with a saturated solution of potassium chloride every hour. In quinsy, I give the sodium salicylate in the same dose or larger with calcium sulphide, two grains every three hours, and apply an ice-bag to each side of the neck over the tonsils. Remember, ice, ice, ice does the work in reducing the turgescent and tumefied tonsils and will prevent, in most instances, tonsillotomy! Another prescription which I have used as a local application in putrid, ulcerated tonsillitis as follows:

Tincture of myrrh	dr. 1
Tincture of ferric chloride	drs. 2
Potassium chloride	dr. 1
Glycerin	oz. 1
Water	oz. 1

Label: Apply, every two hours, with a swab, just to the ulcerated surface.

This is not a very pleasant preparation to use, it also works slowly, but, it always does the work.

Another suggestion: In those cases of recurring acute pharyngitis—especially during the windy, dusty seasons, in which the throat feels dry, parched, and smarts, and when there is an injected mucous membrane and sometimes edematous, you will find the following most excellent:

Tincture of belladonna	gtt. 5
Specific tincture of mangifera	dr. 1
Simple elixir	ozs. 2
Water	ozs. 2

Directions: Give one teaspoonful every hour.

In a subsequent communication, I am going to say something of value in the treatment of the various types of pneumonia, and I shall show the profession how to treat it without a fatality.

J. H. Lowrey.

Neola, Ia.

REMOVAL OF GALLSTONES WITHOUT OPERATION

I have used the following treatment for more than twelve years, with good success, for the evacuation of gallstones, as illustrated by two specific cases:

A mother of 8 children was recovering after having her birth-track repaired at my sanatorium. Her nurse told me of the patient's passing some "round worms' in her bed. So, I prescribed worm-remover (Barron) ordering 8 granules to be taken at bedtime, and 4 granules every two hours the next day, drinking with them a cup of

very hot water, sipped. This to be followed at bedtime by 2 compound cathartic pills, U. S. P. The nurse was to save and wash out all the stools passed for twenty-four hours or as required, and collect the "worms" in the bottom of the vessel, to be examined under a magnifying glass.

Instead of worms, they were gallstones. I then prescribed for the patient 1 ounce of olive-oil flavored with wintergreen, so divided that she received 1-3 ounce before meals three times a day. This treatment was repeated every week for six months, when all tenderness of the gall bladder had disappeared. The woman's skin lost its yellow color and her eyes were bright and clear.

Then the woman said that her 18-months-old baby was passing gallstones, specimens of which she brought for inspection. The baby's skin was yellow, and the child was cross and did not sleep well. It received the same treatment, in proportion, of course, to its age.

Since then I have given this treatment to many patients and with a large proportion of cures. This treatment can be used to diagnose the presence of gallstones, which it forces out if the gall-ducts are open.

ALDUS A. HOOPMAN.

Seattle, Wash.

THEM CALCIDIN TRACHEOTOMY-TUBES

Say, doc, I am getting two or three more journals. One is a big-league journal, and I see in said big-league journal where a guy tips 'em off that calomel, podophyllin, salts, and aloes have all the same action—just moves the bowels. Say, doc, that fellow may be hitting seven hundred in the big league, but, he would not see first base once a season down this a'way. An', say, doc, you know a fellow can take salts until he can give a goose cards and spades and go right on and have a good big sick-headache and keep it until he takes calomel and podophyllin and shakes up his liver. A fellow that shoots pills down this a'way will have to know this, or he will soon be looking for a new location. We have a right smart chills and fever and need a'plenty of quinine and calomel, also podophyllin and iron. Old Doc Wood's ferritonic is a jimslicker, too.

Say, doc, I was driving down the road a'while back and a doctor came out of a house and flagged me, and says he, "Have you'all a tracheotomy-tube with you?" "Yes", says I. Says he, "Come in here quick, doc, a kid has the croup and is going to croak if something ain't done right now. He ain't slept, eat or hardly breathed for two days, and I have give all kinds of croup-medicine, and he ain't no better." So, I goes in and sees the kid trying mighty hard to get a little wind. I opens my grip and takes out two little calcidin granules, mashes 'em up in a little water and slips 'em down the kid's gullet. Says he, "Ain't you going to operate?" Says I, "I have done operated.' Says he, "You are a fool," and out he goes and jumps in his flivver and beats it for the hospital. In five minutes, I gives the kid a couple more of them calcidin granules, and in another five minutes a couple more. Then I lights me a cigarette and sits down to read about the baseball score.

In forty minutes, the doctor what called me a fool comes breezing in with a specialist, and a bag of instruments. But, they didn't use them, for, by that time, the kid had sucked the old woman dry and gone sound to sleep.

Say, doc, a fellow always ought to carry with him a bottle of them wizard calcidin "tracheotomy-tubes," for, he never can tell when he will bump into a croupy kid ready to wheeze out his young life.

So long, doc, I'll see you again along some time next year.

W. B. DOVE.

Macon, Ga.

[Fine, doc, same to you. Only, don't wait too all-fired long to come again.—ED.]

STUBBORN ECZEMA CURED WITH THYMUS GLAND

I wish to report the following case of eczema, which was a little unusual in its course, very stubborn to treatment, and which responded to a therapy that I have never seen advocated for this condition.

With etiology, symptoms, and course of eczema, most of us, of course, are fairly familiar, comprising, as it does, about 20 percent of the skin diseases as we see them. So, I shall not take up time going into these details.

The treatment of eczema varies according to its stage at any given time. Rem-

edies suitable in the acute stage do no good when the condition has passed into the chronic state, while remedies that will alleviate or cure the chronic form must never be prescribed for the acute stage.

It has been my good fortune, or, rather, misfortune, to be able to follow one particular case of eczema from start to finish and to see the patient ever day for almost a year and a half. During that time, the disease passed from the acute stage into one of general septicemia, with multiple abscesses, then these gradually disappeared, and then the trouble became essentially chronic, resisting practically every recognized form of treatment. There would be acute exacerbations, after which it would pass from the fairly quiescent chronic condition of scales and fissures to the acute stage, with vesicles, blebs, and softening of the cutis.

Briefly, this is the case: Patient, male; age, 35 years; height, 5 feet 8 inches; weight, about 175 pounds; family-history negative. He has had the usual diseases of childhood, but not diphtheria or scarlet-fever; had appendicectomy performed six years ago; had tonsils removed in 1907; had hemorrhoids removed in about 1914. Otherwise, he is strong and healthy. In February, 1917, he removed to Coeur d'Alene, having an elevation of about 23,000 feet, from a place approximately 600 feet above sea-level. He is a vegetarian, and has been so for the past three years.

This man, then, soon after he arrived in this town, noticed a rough patch appearing upon the inner surface of one thigh, of about the size of a half-dollar coin and faintly pigmented. It was dry, without any blebs. When shown to me, it looked like tinea circinata. It grew slowly in size until it became about the size of a silver dollar. Then, under desultory treatment, it gradually faded and disappeared entirely. However, coincidently with its fading away, the skin between the three smallest toes of each foot began to soften and peel off as if it had been scalded. The inner and the plantar surfaces were the only ones at first affected. Later, blebs and vesicles appeared, broke, and discharged serum and, often, blood. Various lotions were being used with more or less effect, until the disease apparently had run its course in this location, the toes healing up spontaneously.

Soon, however, the eruption appeared upon the hands, between the third, fourth, and fifth fingers simultaneously. Its course in this location corresponded to the one pursued by it on the feet. The treatment tried was the same, and, with the same result: the trouble could be kept fairly well under control by means of constant application of remedies, but, it never was entirely cured—one day's neglect, and it would be blooming in full force.

After several weeks, the hands healed nicely, however, the feet again broke out as soon as the improvement began in the hands. This alternating kept up all summer until in September, when, while the hands were in full eruption, the blebs apparently became infected and absorption took place rapidly: the axillary glands becoming involved and the patient being taken with chills and sweats alternately, with a temperature of between 102° and 104° F. Several abscesses formed on the hands, fingers, upper arm, on the back, and no less than five deep-seated ones beneath the fascia in the thigh and into which latter I had to plunge a knife 1½ inches deep before reaching the pus. Cultures taken from these abscesses demonstrated a pure staphylococcic infection. With rest in bed, wet dressings. (Allen's formula), and autogenous bacterin (hypodermically), and echinacea in large doses internally, the infection subsided in about two weeks. However, the eczema went merrily on, first on the toes, then on the fingers, alternating with amazing regularity.

I tried practically every remedy recommended by Stellwagon, Sequeira, Hartzell, Van Harlingen, Mracek, Forcheimer, and Sajous, but, all with indifferent results so far as permanency was concerned. I did find that boric acid in solution for the acute and in ointment form for the chronic form gave the best and most uniform results.

The patient was thoroughly examined by several physicians. The urine was normal in amount and in its constituents. The red cells of the blood were normal as to count and appearance; no leukocytosis existed, except during the period of acute infection; the hemoglobin content was 95 percent by the Sahli and Tallqvist scales; the blood pressure was 120 and 70, respect-

ively. The bowels moved regularly once or twice daily. The appetite was good and there were no digestive disturbances. He slept about eight hours every night. Never felt better in his life.

After much assiduous study on this case, I decided that the trouble was not caused by external irritants, also not by irregularities of diet, for, he lived very simply and had no vices except that he smoked. As a matter of fact, I had exhaustively examined into every known cause and, to my own satisfaction, had excluded every one of them. Indeed, there remained but one possible cause, and this one which I had never seen suggested, namely, the lack of one or more of the internal secretions. I did consider endocrinal *hyper*secretion before beginning treatment, but, since the idea was wholly empirical, I decided that it would be easier as well as quicker of determination to assume a *failure* of secretion, and to rectify that.

Thyroid-therapy has been heralded for almost every conceivabe condition, so, of course, I considered that first. However, the patient was normally bright and without signs of myxedema; he had been under my care for a year and a-half and I had noticed no signs of mental deterioration or sluggishness. Hence, I thought that hypothyroidism could not be involved.

So little is known of the action of the pituitary body in the human economy and so little is to be found in the literature concerning it, that I did not wish to experiment with so powerful a measure without first exhausting all other possibilities. Only very little is known concerning the function of the thymus gland in adults—in fact, it seemingly has no function. Nevertheless, I began to give thymus gland experimentally.

This was in the first week of June, 1918. The eczema was then in the acute stage, with the typical vesicles containing clear serum, and which would rupture and discharge or weep for several days, then dry up and form scabs and scales, these later peeling off and leaving a clean, slightly reddened base of thin skin. This, later again would crack and become fissured; this in turn would gradually heal and leave a thickened skin, which scaled and peeled, until it regained its original texture. Then, inside of five or eight days, the whole performance would be repeated.

Upon beginning the use of thymus gland, everything else was discarded, the patient using no medicine of any description, either internally or externally.

The dosage of the thymus gland was 15 grains in capsule with each meal and occasionally a dose at bedtime. Inside of four days, the vesicles had dried without rupturing and the skin assumed its normal color and texture, except upon the palmar surfaces, where it remained somewhat thickened.

The remedy was continued for ten days, then stopped. At the end of a week, the vesicles appeared again, promptly subsided, however, when the patient again began taking the thymus extract.

This course has been repeated now three times, and, with the same invariable results each time. As a consequence, I am led to believe that this patient's eczema is attributable to a *lack of thymus-gland secretion.*

I have treated many hundred cases of eczema and have never had one resist treatment for more than a few weeks. The customary remedies were employed in this instance, without avail, over a period of almost a year and a half—a fact, by the way, which shows that the patient had unwavering confidence in his physician. To tell the truth, this is as it should be, for, I was the patient.

This one case may not be of much value as a contribution to the literature on the subject. Also, we know from past experience that thymus extract is not necessary to cure the majority of eczema-cases. Nevertheless, I would advise a trial of this endocrine therapy in stubborn cases, those resisting the ordinary measures employed for this condition. At all events, it, apparently, is harmless, for, I noticed no untoward symptoms, although on the lookout for such.

ALEXANDER BARCLAY.
Coeur d'Alene, Ida.

SOMETHING TO SNEEZE AT

While it is pretty late for hayfever poetry and we sincerely trust that all the unfortunate victims of this pestiferous in-

fliction have recovered from their annual malady, we venture to reprint a little poem that was sent to us having been clipped from a newspaper, we know not which—nor whence it came. Hayfever sufferers may read it with fond (?) memories. Others will be aroused to sympathy. The poem, which is entitled "Something To Sneeze At" and is said to have been "written between 'em", is as follows:

Hayfever time! Quite safe to bet
Each season brings these days of fret;
  When streaming nose and eyes obtain,
  Brisk Browning sneezes jar the brain,
And mere existence is regret.

'Tis like a loathsome, lifelong debt,
Whose payment must be yearly met:
  Attempts to dodge it oft are vain—
  Hayfever time!

Though in annoyance, sore beset,
We storm with bitter epithet,
  As autumn frosts bedeck the lane,
  Subduing transient woes again—
How speedily may one forget
  Hayfever time!

Albuquerque.

THE MAKING OF AMERICAN CITIZENS

The Chicago stockyards give employment to men and women of more different nationalities, probably, than can be found together anywhere else in the world. Not only are the stockyards unique industrially, but, also for the reason that multitudes of immigrants there have their first experience in being permitted to work under more favorable conditions than those to which they were accustomed and to learn their first lessons in citizenship in a democratic country. Recently, flag-day exercises were conducted at the plant of Armour & Co., and, on that occasion, fifteen thousand employees, more than 75 percent of them of foreign birth, participated.

When Mr. J. Ogden Armour appeared on the speaker's platform, he was acclaimed in more than thirty tongues. Every foreign tongue spoken in the United States can be heard in a tour of the Armour plant, and the *"Viva, Vive, Evviva, Atzye, Niech Zyje, Zivio, Da, Zdravstvuet, and Banzai"* were given as lustily as were the typical "'Rah's" of the Americans. It is the occasional personal touch that counts in great organizations and events of this kind, where the "boys" are given a chance to come into more or less intimate contact with "the big boss", always are reflected for days afterward in increased efforts on the part of the employees.

The flag-raising program was held in front of the Armour wholesale market and, after the singing of "The Star Spangled Banner", in which Mr. Armour led, the flag was raised while a bugler played "The Salute to the Colors." During the exercises, the crowd spoke in unison an "American's Creed", which was as follows:

"I believe in the United States of America as a government of the people, by the people, for the people; whose broad powers are derived from the consent of the governed; a democracy in a republic; a sovereign nation of many sovereign states; a perfect union, one and inseparable, established upon these principles of freedom, equality, justice, and humanity, for which American patriots sacrificed their lives and fortunes. I, therefore, believe it is my duty to my country to love it, to support its constitution, to obey its laws, to respect its flag, and to defend it against all enemies."

A YANK'S PLEA

Dear Folks Back Home:
  Say, listen here!
We fellows hold our young lives dear,
We're over here to lick the Huns.
It's up to you to give us guns!
We'll do our best. But, it takes cash
To furnish all us guys with hash;
Now, get this straight and understand:
All you must do is, lend a hand.
So, we suggest you buy a "bond"—
We'll do the rest across the pond.
You're giving aid by lending gold
And turning Fritzie's big feet cold!
Those bonds are good investments, too;
So, buy a few! It's up to you!
Now, *au revoir!* Help down the Hun!
With greetings from
  Your Loving Son.

The Orion Times, Sept. 19, 1918.

[This appeal follows aptly upon the preceding one. Liberty Bonds are not sold at present, true; but, there must come another drive, probably next spring. And then, let us remember the Yank's plea. In the meanwhile, the seven war-service associations need money as badly for their work as does Uncle Sam for his—and ours. Surely, "Yank" would have urged

us to help them, if he had thought of it. So, let's all dig into our pockets and help. Also, let's get ready for the next Liberty Loan drive.—Ed.]

A JOINT APPEAL FOR JOINT SERVICE

The seven organizations which by their work overseas have kept up to pitch the morale of the American army will appeal to the public in unison this fall for the money with which they will carry on their activities during the coming twelve months. In a drive known as the United War Work Campaign, $170,500,000 will be raised, the largest sum of money ever subscribed by a nation for patriotic service. The agencies cooperating are, the Young Men's Christian Association, the Young Women's Christian Association, the National Catholic War Council, the Jewish Relief Board, the War Camp Community Service, the American Library Association and the Salvation Army. The merger, which comes at the request of President Wilson, will relieve the public of repeated separate demands. The share of Illinois in the drive will be $12,740,000.

It has been these agencies which have carried over to the man in France the comforts which his family at home would wish him to have, but, is powerless to provide for him. Back of the lines, American workers from the several organizations are helping the doctors and nurses bring back to strength the men whom the stretcherbearers have carried in. Their gymnasium directors are keeping the soldiers physically fit. The necessities which the private or officer needs, the civilian officer, there only to serve him, sees that he gets. More than any other means, the recreation and good fellowship of the canteen hut keep up the soldiers' spirit and send them back to their regiments ready to fight stiffly.

The Y hut, the Salvation Army hutment, and the K. of C. clubroom have offered their bright hospitality to all the men with the army. Shows and movies have kept laughter around them. There have been lectures at the club centers. America's leading singers and actors have amused the boys from the tiny clubroom stage, and always within the man's reach have been the books and magazines which the American Library Association has sent over. Whenever a rush was on and reserves were marching up to relieve a regiment, the women of the Salvation Army have been waiting outside their hutment, ready with hot drinks and hot food.

In the small Blue-Triangle hut set up beside the hospital barracks, the Young Women's Christian Association is performing a similar work for the American nurses. It is giving easy chairs, books, and music to the girls who have stood all day on the hard stone floors of the hospital wards. The Association has also cast its blue shadow of protection over the other American women serving with the army overseas, and to the women and girls of the French munition factories it has offered in its Blue-Triangle foyer a clubroom to which they can come for rest and amusement.

In this country at the camps and naval training stations, the Jewish Welfare League and the War Camp Community Service have joined in the task of keeping the military and industrial armies keyed to their task of winning the war. More than one hundred thousands Jewish men in the army and navy are being ministered to by Jewish workers. Rest rooms and libraries in and near the camps have been equipped with English, Yiddish, and Hebrew literature. Concerts and lectures at the J. W. B. centers, as at clubrooms of the other welfare organizations, supply amusement to every enlisted man, regardless of his race or creed.

The War-Camp Community Service meets the soldier as he goes out from camp and gives him its hospitality in a strange town. It gives soldier and sailor a clubroom in which they can meet the right sort of people and entertain their women friends. When the man away from home becomes also the man away from camp, the War Camp Community Service is there to help him.

In both, this country and overseas, the men and women who have gone out to represent the seven organizations have worked with a singleness of purpose. Each has had as its aim the keeping strong and fit the officers and men in every regiment. They have dovetailed the work of their organizations in common service. They now return to the Ameri-

can public with a common appeal for patriotic funds. The share of each agency in the campaign is:

Young Men's Christian Association	$100,000,000
Young Women's Christian Association	15,000,000
National Catholic War Council	30,000,000
Jewish Welfare Board	3,500,000
American Library Association	3,500,000
War Camp Community Service	15,000,000
Salvation Army	3,500,000

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[This pithy and terse description of the work accomplished and to be continued by the several welfare associations must fill our hearts with joy and gratitude, since it assures us that our boys are taken care of while their serious duties keep them away from home and in danger. We should, all of us, be as eager and anxious to help in this work as we were to subscribe for Liberty Bonds. Let each home-doctor give his check for $5 or $10—more, if he is able. The result will be gratifying, and helpful.—ED.]

THE DIAGNOSTIC VALUE OF PAIN*

The physician who faithfully applies himself to the thoughtful study of the mysterious phenomena of pain is, indeed, quite consciously cognizant of the truth that the subject is truly perplexingly entangled and apparently unlimited in its scope. But, the tireless student and thorough investigator is gladdened and encouraged to greater effort by personal achievement and keen appreciation of the fact that the confounding intricacies of the subject are beautifully illuminated, occasionally, by the manifestation of seemingly unsolvable and untraceable features of pain-symptoms that challenge and demand his trained ability to diagnose successfully.

In the study and consideration of the symptoms of pain, the physician should not enter into the task with the expectation of reaching a goal where new symptoms may possibly be discovered; for, such a goal is but the unattainable creation of the mind and vivid imagination of the seeker only. Of course, he may have the temerity boldly to assume the credit for the sole discovery of a new symptom of pain, but, all that he is really able to accomplish is his own striking realization of failure by learning, through more extensive reading and more complete investigation, that he simply succeeded in deluding himself, for a brief time of undulating enthusiasm, by such an untenable and unprovable affirmation. There were times, however, in the history of medical practice when the physician could truly maintain his affirmation of discovery of new symptoms of pain; but, that time is past for you and me.

One of the greatest hindrances to the successful experience of a physician is the pernicious habit of taking some things for granted while lingering insufficiently long on the propitious highway of careful, painstaking investigation of important pain-symptoms. To endeavor in a modest way to awaken a slumbering desire and to stimulate thorough investigation of the essential features of pain-symptoms, is the only purpose of this paper.

He who expects to hear anything new, either in symptoms of pain or in the employment of new methods for determining the inception of painful conditions, will be sadly disappointed. And he who even anticipates the pleasure and profit that might be his, as a result of the reading of a carefully prepared and complete treatise on the various symptoms of pain, will be most wofully disillusioned. All that may consistently be accomplished in the brief space allotted for the task is an urgent effort to impress upon our minds more effectually the recognized necessity of more frequent consultation of our best authors—whose invaluable books often lie dust-covered and untouched for months upon our book-shelves—and the more thorough application of the beneficent fruitage of these best teachers to the consideration of the painful afflictions of our patients. We should not strive so energetically to discover something new in symptoms of pain, but, should strive more earnestly and more diligently to fix the known more indelibly upon our memories.

In this day of rapidly progressive medicine, the physician is, indeed, impelled to greater and closer application of his time and talents to the more thorough investigation of the causes of disease—if it is his laudable ambition to maintain his professional standing and reputation as a twen-

*Read before the meeting of the North-Western Ohio District Medical Association, at Van Wert, Ohio, September 19, 1918.

tieth-century member of the healing cult. And, in the studying of the causes of disease, he must more closely observe the origin and trend of its symptoms. The untoward tendency of unprofessional neglect and the unpardonable habit of superficiality, so prominently characteristic in many physicians, in conducting physical examinations of patients have been more effective in curtailing the clientele and income of the physician than any other factor in medical practice.

In this age of emphatic affirmations of personal achievement in all lines of specific endeavor, the medical profession can not be consistently excluded. Wonderful claims as to superiority of thought and application of ideas have been successfully substantiated in medical circles of the recent past. But, unfortunately, there is not so much investigative thought force used today by some physicians, as methods of automatic application of diagnostic principles are employed. The average physician of today is, seemingly, well satisfied to apply, superficially and on the pretext of "What's the use?", the well-defined methods of diagnosis as laid down in the best textbooks of the day, rather than to spend any time and thought-force in an effort to impress more deeply into his gray matter the requisite knowledge gleaned only through personal investigation of the consequence of pain in his patients. He should realize that the pain the patient suffers is only a subjective symptom that may be simply the forerunner and danger-signal of approaching disease.

It is in such cases, especially, that the diagnostic value of pain is truly apparent. Many incipient encroachments of disease may be assuringly halted, through their prompt recognition by the competent diagnostician, as effectually as the brave, thoroughly trained allied soldier-boys halted the "Hun peace-storm" on the Marne.

Pain may be defined as a pronounced manifestation of nerve irritation, which may vary in intensity from a mildly disagreeable sensation to acute, unbearable anguish. Pain may proceed from undue pressure, increased tension, or spasm, separation of parts by violence, or any derangement of functions.

Pain often is the only symptom that prompts a patient to consult his physician. In his effort to determine the cause of the pain, the physician will find it best, in many cases, to listen patiently to the patient as he describes his pain. After the description has been given, the physician should determine the location, cause, and character of the pain. He should remember that the exact location of a pain aids very materially in the determination of the diagnosis; that the cause of the pain aids unerringly in the proper recognition of the disease; and that the character of the pain, in many instances, is the clincher in the final and indisputable proof of a correct diagnosis.

It seems utterly needless to affirm that it should be the bounden duty of every physician faithfully to determine the various causes of painful conditions in every instance, by all the symptoms manifested. But, there can be no fixed or invariable law governing the method of examination in such cases; for, it is an appreciable fact that every case is truly a law unto itself and that pain does differ greatly in patients afflicted with the same disease. Every physician should cultivate assiduously his own peculiar method of physical examination because of characteristic idiosyncracies in patients. No absolutely correct or infallible guide in medical diagnosis has yet been promulgated that would enable the diagnostician to recognize the exact cause of pain in a moment's consideration.

The same theories on pain obtain today in all the textbooks on the subject, with the exception, however, as to the classification of pains. Appropriate adjectives are more extensively used by some authors than by others, simply because they seem to see the necessity of making the classification more thorough and complete. There was a time when the physician was fully satisfied to call a pain mean, ugly, awful, terrible; but, today, the educated physician must differentiate pains as direct, remote, dull, sharp, throbbing, burning, boring, shooting, lancinating, neuralgic, rheumatic, sciatic, hysteric, suggested, autosuggested, spontaneous, referred, radiated, obscure, and on so without end.

I presume there is not one physician here today that is not inclined to the belief that this more recent classification of pains is ample proof of the appreciable progress in the diagnostic value of pain.

We can not possibly be overprofuse, on certain occasions of medical examinations, in the employment of adequate and appropriate words to express forcibly and intelligently our opinion of a painful condition in a patient; for, some pains do seem to inherit the provoking necessity of complete recognition, through the use of words, that may be deemed, by our Christian prayer-meeting Esculapian, a superfluity of exaggerated wordy exuberance.

It is, indeed, true that the pain elicited by the diagnostician during the physical examination of his patient really does aid in the determination of a correct diagnosis; but, it may not be in the least necessary for him to add superfluous adjectives or even recalcitrant verbs in the effort of classification of the disease that causes the painful condition. Freedom of verbal expression, however, should not be denied the keenly suffering patient, while he enthusiastically aids the physician in the effort to arrive at a satisfactory and pleasing diagnosis.

Every physician is well acquainted with the patient in whom the sensibility to pain is likely to be increased by its long continuance, and also with the patient in whom the habitual endurance of pain has a marked tendency to blunt the pain-sense. So, the physician should carefully observe the countenance of the patient as he relates the story of his suffering, as also when pain is elicited by manipulation. If the patient assumes the expression of the martyr, he undoubtedly is a habitual sufferer. [Certain people who "enjoy poor health", adopt the expression of a martyr without adequate excuse, pain then may be subjective, with slight objective foundation.—Ed.] If he employs words of especial distinction in the description of his pains and his countenance beams with intelligent appreciation of their beneficent effect, he is human and the pains are unquestionably of recent origin.

Some one has said that pain is to the physical as conscience is to the spiritual. This evidently is a true saying, for, any digression from natural law requirements is sure to precipitate the inevitable function of pain and our indiscretion brings on the punishment we so justly deserve. And when we digress the beneficent blessings of the divine law, we also precipitate an avalanche of most peculiar sensations of pain and remorse.

Pain is not our enemy, but, is our ever-awake and convincingly efficient friend. Pain has its own noble joy, when it kindles a strong consciousness of life, before stagnant and torpid. It is, seemingly, pitiless pain that leads to the saving of life, but, its cause must be recognized in time. Pain is the necessary contrast to pleasure. It ushers us into existence and is the first to give us consciousness. Placable pain alone is capable of exciting the organs into activity. It is the companion and the guardian of human life.

The laws of nature are all directed by a divine Providence for the express purpose of preserving life. Pain seems in all cases to precede the mutilation or destruction of those organs that are essential to vitality, and for the end of preserving them. Pain seems intended by an all-wise Creator to prevent the dissolution of organs, and seemingly fails in the effort to follow their destruction.

Some audacious author has dared to insinuate that most diseases are the ignoble result of nefarious medication that has been prescribed, to relieve and remove a beneficent warning symptom on the part of benevolent nature. But, upon thoughtful, respectful, unprejudiced consideration of the seemingly unwarranted allegation, I am led to the belief that not one physician would hesitate to honestly confess that the indictment is, indeed, true.

To you and me, is given the essential task of ferreting out the cause of each diagnostic pain in every patient to whom we are summoned to administer. The kind of service we individually render will be peculiarly our own, but, it should always be intelligent, effective professional service.

BURTON R. MILLER.

Tiffin, Ohio.

CONGENITAL ABSENCE OF ANUS IN AN ADULT

Since the following rather unusual case may prove of interest to others of the "family", I venture to report it briefly.

Last May, being called to attend a woman in her fifth confinement, I found a dry labor, with breech presentation, and completed the delivery under chloroform-anesthesia, and in which I experienced more

trouble than I have had before in bringing down the legs and arms. The after-coming head was delivered with the forceps, of course. The cord had been under pressure for probably ten or fifteen minutes while the arms were being brought down and the head delivered. We had an asphyxiated boy, and it required full thirty minutes of persistent work before normal breathing was established.

The strange part of this case I did not discover until lately. The woman in question came to me with the request that I give her something to cause her bowels to move better. Examination revealed that she has no anus! The rectum, I found, terminates one inch from the posterior commissure, in a small opening not noticeable to the eye, ordinarily, and capable of admitting the index-finger. This orifice, though, seems to have a sphincter, and of good quality; however, the woman complains that the bowels will not move without her taking a saline physic. This she does two or three times a week, and then there will be a leakage of fecal matter for two or three hours after the first evacuation. I have put her on a compound, to promote a more normal action, but, do not know what the result will be.

A plastic operation designed to create an anal opening in the normal place, it seems to me, would make things worse than they now are; considering that probably there would be no sphincter to protect it.

C. A. FREEMAN.

South Milwaukee Wis.

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[This case is, indeed, an interesting one. However, cases of this kind are occasionally reported, and, as a rule these malformations are rectifiable by operation. Of course, the difficulty pointed out by you, that is, the creation of an artificial sphincter, is to be considered. In some instances, the muscular structures are sufficient to maintain control of the bowel.

This case, we dare say, will require considerable study and research; this much, though, we may say: Your patient's rectum opens into the posterior wall of the vagina, a condition known as atresia ani, or, as it is more frequently called, imperforate anus. This malformation is not exactly infrequent and depends upon the failure, in fetal life, of the rectum to grow down and unite with the anal tissue. In some instances, there merely is present a blind rectum without any opening whatever (atresia simplex); in others, the rectum may communicate with the vagina or urethra (atresia ani vesicalis, urethralis, or vaginalis).

The occurrence of this malformation, or imperfect development, will be understood better if it is remembered that, embryologically, anus and rectum are developed from entirely different layers of the blastoderm and that the blood supply comes from different sources.

The correction of this condition, naturally, depends very largely upon circumstances. In the case of your patient, there seems to be a reasonably good sphincter, the difficulty being that the pouch of the rectum descends lower than the rectal opening into the vagina, this explaining the leakage of fecal matter for some time after catharsis.

We have the impression that an operation to create an anal opening in the usual place would seem to make matters worse, because of the impossibility to create a sphincter to protect it.

In any case, any discussion of the problem can be but tentative and its ultimate solution would have to be left to the decision of a competent surgeon, who very naturally would base it upon the anatomical relations in this case.—Ed.]

HOW TO GET RESULTS FROM CALCIUM SULPHIDE IN INFECTIOUS DISEASES

I carry in stock the 1-6-grain granules and yellow 1-grain tablets of calcium sulphide. This drug can not be used with much success unless you stick very closely to the principle of cleaning out the alimentary canal, first, last, and all the time during the cure. As a rule, I give 1 or 2 grains of calomel, followed by saline laxative. Then, in the case of children, I give the 1-6-grain granules, and the 1-grain tablets to adults, *after eating*. This drug should never be given on an empty stomach, or, the patient will vomit. I have prescribed it for more than a year in a case of rectal fistula, in the presence of tuberculosis, and there never has been stomach irritation. I always give with it either anticonstipation granules (Waugh), anticonstipation granules No. 1 (Mulford), or podophyllin, 1-6 to 1-4 grain. These work together very well. I have pre-

scribed the calcium sulphide in all exanthematous diseases, and it works like a charm. In all blood discrasias, the combined arsenates with nuclein are added or whatever other treatment may be needed.

In Neisserian infections, calcium sulphide is one of the very few drugs that do good work. I begin with 1 grain after meals and have the patient eat something at bedtime, when they take their last dose of the medicine. This dose is increased by 1 grain every other day until 7 or even 10 grains of the drug is being taken four times a day. Then decrease by 1 grain every other day until the minimum of 1 grain is reached.

Some day I may write about other things that have been helpful in my practice and might help my brother physicians.

ALDUS A. HOOPMAN.

Seattle, Wash.

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[We hope that you will write again, brother. Such helpful articles are needed by us all.—ED.]

CASE-REPORTS ON ECHINACEA IN INFECTIONS

In an editorial in CLINICAL MEDICINE for November, 1917, a case of virulent eye infection is described, in which mercuric-oxide ointment, locally, calcium sulphide to saturation, and all other local and constitutional treatment failed signally to relieve, but, which yielded for the better in twenty-four hours to dram-doses of Lloyd's echafolta administered every two hours. Prompt recovery took place after 2 ounces of echafolta had been used.

In the same journal for July last, Dr. W. K. Johnson describes 2 cases of puerperal infection treated with echinacea as the dominant remedy, under the most unpromising and unsanitary conditions, with the most gratifying success.

My experience with echinacea, I am sorry to say, has not been so happy, as the following reports will show.

I was called to Mrs. H., aged 28, in her sixth pregnancy. All save one of her five previous labors, which were protracted and exhausting, were instrumental deliveries. I placed her upon a course of preparatory treatment, as advised by Ellingwood, during the last three months of gestation.

During the last month, I gave strychnine sulphate, 1-30 grain, three times a day. In due time, labor came on and I was summoned at 2 o'clock a. m. I found the patient sitting by the fire in comparative comfort, pains recurring about every ten minutes. This condition prevailed until 5 a. m, when contractions became stronger and more frequent. Examination at this time revealed the os well dilated, vertex presenting, and tissues soft and yielding. Pains were rapidly growing intense. I gave chloroform by inhalation, which made the pains bearable. At 6 a. m., a girl baby was born, the mother having been in hard labor not more than one hour. I attribute this easy labor to the course pursued during the last months of pregnancy. So far little more was to be desired. Convalescence set in and all went well until the tenth day, when the patient was seized with a violent chill, which recurred at intervals for some hours.

I gave atropine hypodermically and administered hot capsicum-tea. These measures finally controlled the rigors. The uterus was irrigated with hot boric-acid solution and hot magnesium-sulphate compresses over the abdomen, also hot antiseptic vaginal douches were ordered. The patient was placed upon Lloyd's echafolta, 15 drops, increased to 30 drops every two hours, as the dominant remedy, to combat the infection. Quinine sulphate, sodium salicylate, tincture of chloride of iron, specific medicines of respectively, aconite, bryonia, cactus, and others, were used to meet special indications. But, nothing seemed to be of the slightest avail and death ensued ten days after the initial chill. Antistreptococcus serum was obtained too late for administration.

The surprising feature of this case is the fact that infection did not set up until ten days after delivery. I heard that the woman told a neighbor that she would not have been in that condition if her husband had behaved decently. Inference as to the cause is clear.

The second case was that of a primipara, aged 19. Three days after delivery, the patient complained of chilliness and other evidences of beginning infection. Temperature 102° F., with corresponding pulse rate. I gave her an initial cleanout with calomel followed by an effervescent saline laxative, and then placed her upon the combined sulphocarbolates, 5 grains, calcium sulphide, ½ grain, and echafolta, 20 drops,

every two hours. For the fever, I gave the defervescent compound granule, quinine sulphate, and sodium salicylate. Specific medicine of cactus was prescribed, to strengthen the wavering heart. Hot magnesium-sulphate compresses and hot antiseptic vaginal douches were ordered; the latter thrice daily. The condition of the patient gradually growing worse, a consultant was called. He came, made an examination, but, suggested nothing that had not already been done—pocketed a fee of twenty-five dollars and went away. A second consultant was called and the uterus curetted, but, the patient succumbed twenty-four hours later. Antistreptococcus serum was suggested in this case, but, neither consultant had ever employed it and did not seem to think much of it.

Now, what is the comment? Was echinacea employed in sufficient dosage? Notwithstanding the lamentable outcome in these cases, my faith in echinacea in septic conditions has not been shaken. I shall continue to use it and shall try it out at the next opportunity.

Only recently, I was called to a case, that of a girl of 19 who presented typical symptoms of typhoid infection—chilly sensations, headache, boneache, anorexia, typhoid tongue, nosebleed, stepladder temperature and so forth. I cleaned out the intestine with calomel, ½ grain, every hour, for six doses, followed by a laxative saline, and ordered the combined sulphocarbolates, 5 grains and echafolta in 15-drop doses every two hours. One ounce of hydrogen peroxide in quart of cool water was provided and, a glassful directed to be taken at intervals, the whole to be consumed in twenty-four hours. A colonic flushing with physiologic salt solution, to which was added 20 drops of carbolic acid and one-half teaspoonful of oil of turpentine, also was ordered. In three days, the temperature came down to 90° F., and in ten days the patient was dismissed convalescent. What part the echinacea played in this gratifying result I can not say, but, I am persuaded it contributed its bit. I shall use it again in my next case of typhoid infection.

J. Luther Sheppe.

Red Sulphur Springs, W. Va.

[Personally, the present writer has not much use for echinacea in cases of puerperal septicemia. Indeed, he has not seen any cases of this sort for many years. He is under the impression, however, that this condition constitutes too severe a septicemia to be readily amenable to echinacea or other systemic antiseptics unless in very large dosage. It might be that much larger amounts of the echafolta would have given better results.

In cases of puerperal septicemia, the organism is overwhelmed so markedly by the streptococcus responsible that it is all but impossible for sufficient antibodies to develop for overcoming the toxicosis. Here, then, there would be an indication for an immune-serum, as distinguished from a bacterin. You remember that the immune-serum contains the specific antibodies immediately available. By injecting these in the affected organism, a proportional amount of toxin would be neutralized, when the body would be given a chance to develop a resistance to the infection. There is no time to fool with bacterins, because it required from five to ten days for the antibodies to form in response to the bacterin stimulation. Hence, the advisability of an immune-serum; that is, passive immunization rather than active.

For local treatment, douching with chlorazene solution or intermittent irrigation according to the Carrel method undoubtedly would have encouraged drainage and might have served well. It is even thinkable that chlorazene in proper dilution injected into the blood stream—intravenously—might have aided in overcoming the bacteremia.

Of course, *post-hoc* argumentation is easy. Yet, it is from our failures that we sometimes learn the most valuable lessons. Some of them the writer has ventured to indicate for your consideration.—Ed.]

WAR SLANG: "PIU-PIU"

In answer to your question on page 465, as to the why for the reduplication in the French term "piu-piu," I want to point out that the Italian habit of speaking with great vivacity leads, naturally, to a repetition, a feature which surprises us western or northern people. Piu-piu means, simply, "more". To express the idea that a person has beautiful black eyes, the Italian is not satisfied with *belli occhi neri*, but, he says,

belli occhi neri neri. I once heard an Italian repeat *piu* six times in succession, to emphasize the fact that he could not get enough of a good thing.

E. H. F. PIRKNER.

Atlanta, Ga.

THE RESOURCEFUL AMERICAN DOCTOR

In the February number of your journal (p. 156), you printed a letter from Doctor Carreño, of Mexico, in which he describes

Two North Carolina Mountaineers As They Reported for Military Service. (See Editorial Article on page 807.)

his method of treating phagedenic ulcers with a dressing of powdered charcoal. The letter interested me, because some thirty years ago I used the same treatment, in combination with other ingredients.

I had, at that time, a good many colored patients, wished on me by the dear ladies of various benevolent societies. Of course, they were all charity-patients and most of them lived in that part of the town aptly dubbed Poverty Hollow. A great many of them were typical southern darkies—lazy, shiftless, and subject to some of the maladies so often encountered among the Negroes of the South, as also among inhabitants of the tropics and the Orient.

I had several cases of that not very common manifestation called "spontaneous gangrene" where a finger or toe would slough off, literally drop off; and, of course, phagedenic ulcers were plentiful.

For dressing them, I used a mixture of powdered charcoal and powdered calisaya-bark, with a 25-percent admixture of powdered roasted coffee. The results were as satisfactory as those reported by Doctor Carreño. And, the coffee, besides its deodorizing qualities, apparently acted as a good disinfectant and stimulator of fresh, healthy granulations.

In the days when iodoform was the great antiseptic, I used to destroy the odor of it

The Same Men After Four Months of Training. An Eloquent Argument in Favor of Universal Military Training.

on my hands by rubbing them with powdered coffee.

By the way, my practice in those days taught me a good many "ways of skinning a cat." My practice was in a country community. I was a newcomer, scantily endowed with the almighty dollar, and had to make my armamentarium of instruments

and appliances play a good many novel parts.

One Friday afternoon, just after luncheon, one of my colored friends from "Poverty Hollow" came racing to my office with his better half. The woman's mouth was wide open and she was in a fair way of choking. Her spouse said she had "done swallered a big codfish-bone". Sure enough, there it sat, stuck in her throat, and, in trying to get it out, she only had jabbed it still deeper. No umbrella-probang or slim forceps long enough to reach it being in my outfit, I had make shift. So, an Otis dilator, opened up and then screwed together, yanked that bone out. How is that for inventive genius?

Years later, I have often thought of this incident and laughed, when, in the lap of instrument-luxury, I had all the latest doodads at my command.

C. L. STEENSEN.

New York, N. Y.

SOME FACTS ABOUT YEAST

The subject of yeast is of importance because, first—as has been pointed out in an editorial in *The Journal of the American Medical Association* (1916, LXVI, 1390) it possesses a distinct nutritive value and because, secondly, it possesses therapeutic virtues. The problem of the yeast treatment has recently received impetus as the result of the publication of an article by Dr. Philip B. Hawk and collaborators, (*Jour. Amer. Med. Assoc.*, Oct. 13, 1917) which represents work done in the laboratory of physiological chemistry of the Jefferson Medical College and of the Philadelphia General Hospital, both of Philadelphia, and of the Roosevelt Hospital at New York.

Hawk and his colleagues obtained strikingly good results from the use of yeast in many pathological conditions, especially the purulent skin conditions, such as acne and furunculosis, and also in constipation. That they did so, is not at all surprising, for, yeast has always acted well in these skin conditions, as is well known. Hawk mentions that yeast has been employed in medicine since the days of Hippocrates who used it in the treatment of leukorrhea. Not until the middle of the nineteenth century, however, was its use looked upon favorably by the medical profession. Since then, the value of yeast has been attested to by numerous observers, who employed it in a variety of pathological conditions. Its value in certain skin conditions has been freely acknowledged by dermatologists, Schamberg, for instance, who has seen good results from its use in the treatment of ordinary furunculosis, although it failed him in the furunculosis accompanying smallpox.

Hawk's researches are novel, in that he employed as a therapeutic agent, not the time-honored brewers' yeast, but, the familiar Fleischmann's yeast of the bakeries and the household. This is the first time, it seems, that bakers' yeast has been employed systematically as a therapeutic agent, although Louvel (*Rev. Méd.*, 1905-6, fasc. 10, 16-19) seems to have used it in the treatment of sundry infectious diseases, and according to Cailliau (*"Thèse de Paris"*, 1908) it was employed in 1896, by De Backer, who mixed it with equal parts of white honey, and who considered it more active and better supported than ordinary yeast in the treatment of furunculosis.

That brewers' yeast should have been used in the past is not at all surprising, when we call to mind that, in all probability (just as in modern times), it was extensively used and experimented with by the employees of breweries, because so readily accessible. A special virtue seems to have been attached to brewers' yeast, probably for this very reason. Thus, for instance, the yeast specified by Schamberg is the fresh brewers' yeast, while the U. S. Pharmacopeia of 1876 defines yeast (fermentum) as "a peculiar insoluble product of the fermentation of malt-liquors." Yeast was dropped from the Pharmacopeia of 1880 and since then has remained unofficial. The "U. S. Dispensatory" of 1918 describes it as a "flocculent, frothy, somewhat viscid semifluid of a dirty yellowish color, a sour, vinous odor, and a bitter taste." However, the appearance of brewers' yeast is not familiar to very many physicians, one reason being that it is not immediately available, except in some large cities. In country districts that are remote from breweries, the procurement of brewers' yeast is attended by serious difficulties.

"Compressed yeast" (the undried product) now is readily obtainable, and there

is no reason why it should not be largely used.

"The National Formulary" (1916), under the term "cerevisiae fermentum compressum", recognizes compressed yeast and describes it as follows: "The moist, living cells of saccharomyces cerevisiæ Meyen (fam. saccharymycetaceae) or of other species of saccharomyces combined with a starchy or absorbent base. White or yellowish-white, soft and easily broken masses, having a characteristic slightly sour odor and not more than a faintly acid reaction to litmus. When examined under the microscope, numerous oidium and mycoderma cells and starch grains are visible. Compressed yeast must not be used unless fresh and free from mildew and musty odors." According to Sadtler ("Industrial Organic Chemistry," 1900), it should be only slighty moist, not sloppy to the touch; the color should be a creamy-white; when broken, it should show a fine fracture; when placed upon the tongue, it should melt readily in the mouth. It should have an odor of apples, not like that of cheese; it should not have an acid taste or odor.

Aside from its nonavailability, certain other objections to the use of fresh brewers' yeast readily come to mind, among them the fact that, as a rule, its decided lack of uniformity as to composition and action. This is readily understood when we recall that in the yeast of the breweries two well-marked varieties of saccharomyces have been recognized: a top yeast, most active at between 16° and 20° C., and a bottom yeast, most active at between 6° and 8° C.

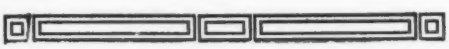
On the different behavior of these varieties, different methods of brewing have been founded. Lardier (*"Thèse de Paris,"* 1901-1902) calls attention to the fact that brewers' yeasts obtained from different breweries behave differently so far as therapeutic action is concerned; moreover, that the therapeutic action of yeasts obtained from different lots produced in the same brewery will vary. Also, the yeast in the same barrel varies at different stages of fermentation. He states that this difference explains in part the varying therapeutic results obtained by different observers.

Besides varying in the proportion of the different species of saccharomyces which they contain, brewers' yeasts are prone to be contaminated with various wild yeasts that have entered from the air.

There is a difference of opinion concerning the nature of the constituent of the yeast that gives it therapeutic value. Some investigators claim for it a direct bactericidal effect; others regard the effect as due to byproducts of fermentation, such as alcohol and various acids; still others regard the action a result of the chemotactic influence of the high nuclein-content of the yeast. According to the "Dispensatory", the experiments of Walzou and Lacharow have shown that yeast increases the opsonic index of dogs for staphylococci and streptococci. This may help to explain its favorable action in infectious conditions.

The "Dispensatory" mentions the fact that the ordinary yeast cake of American bakers may well be substituted for brewers' yeast. In view of Mr. Hawk's investigations, this statement may very well be true. Compressed yeast generally is to be preferred because of the fact that it is carefully standardized and a uniform product is always obtainable.

Sadtler refers to the researches of Hansen, who early separated various species of yeast used in the industries. Among these varieties of saccharomyces cerevisiæ and saccharomyces pastorinus were used in the brewing of beer, and saccharomyces ellipsoides, in the manufacture of wine. Sadtler states that it is prepared as compressed yeast in the form of cakes generally with the addition of potato-starch. The "National Formulary" does permit the presence of any species of saccharomycetaceae other than that of saccharomyces cerevisiae Meyen. At all events, the composition of bakers' yeast can be controlled, and this product possesses the advantages of availability and uniformity.



In the World War

LETTERS FROM FRANCE—IV

Wouldn't it make you a trifle irritable if, after passing five months at the front, you stole a ride on a French cattle-car to get to a town twenty-five miles back of the lines, so that you could have a quiet night's rest, and then had your bedroom ventilated by machine-gun bullets, while a bomb from a Boche aeroplane blew you and your bed out into the hall as a sort of grand finale? Joseph T. McInerney, of Lynn, Massachusetts, who had all the above-mentioned things happen to him, admits that it did make him somewhat peevish; in fact, McInerney declares that he and the Kaiser are positively on the outs since the night that his slumbers were interfered with in such an unseemly manner.

If the draft-age is going to be raised to the forty-fifth year, it won't even hint at McInerney; so, after five days with a division as a K. of C. secretary during the drive, he was not as fit as the soldiers and he just had to have a night's sleep. Thus, in pursuance of this conviction, he hoofed it back to a railroad line, boarded one of the dinky French freighters as it lumbered past and engaged a first-class seat on some straw in a cattle-car. When the train arrived at a town twenty-five miles back of the lines, McInerney jumped off and wended his way to a hotel, secured a bedroom, and took possession, firmly determined to snooze for twenty-four hours at least. However, as is well known, the best-laid plans . . . !

Around about 10 o'clock that night, two gentle German aeroplanes came floating over that selfsame little town. McInerney swears the aerial visitors must have known just where his room was located, for, they forthwith "torpedoed it without any warning". A burst of machine-gun bullets buzzed all around him and let in the night-air through a disagreeable number of sections of the wall, and then, the while Mac was struggling to get out of the bedclothes, a bomb relieved him of the trouble by blowing away the entire wall, simultaneously tossing the bed and its bewildered and sleep-drunk occupant into the front hall. To enliven things a bit more, a second bomb landed on the roof and completed the nocturnal job, so that the Boche pilots were able to go back and report another French "munition-plant" destroyed. Hereafter, when McInerney thinks of passing a quiet night, he vows he's going to apply for an assignment at the front with a trench-mortar battery.

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Mr. Walter Hayes, for five years the private secretary of President Roosevelt, is one of the latest recruits to the ranks of Knights of Columbus workers in France. Mr. Hayes has been assigned to work in the headquarters of the K. of C. in Paris.

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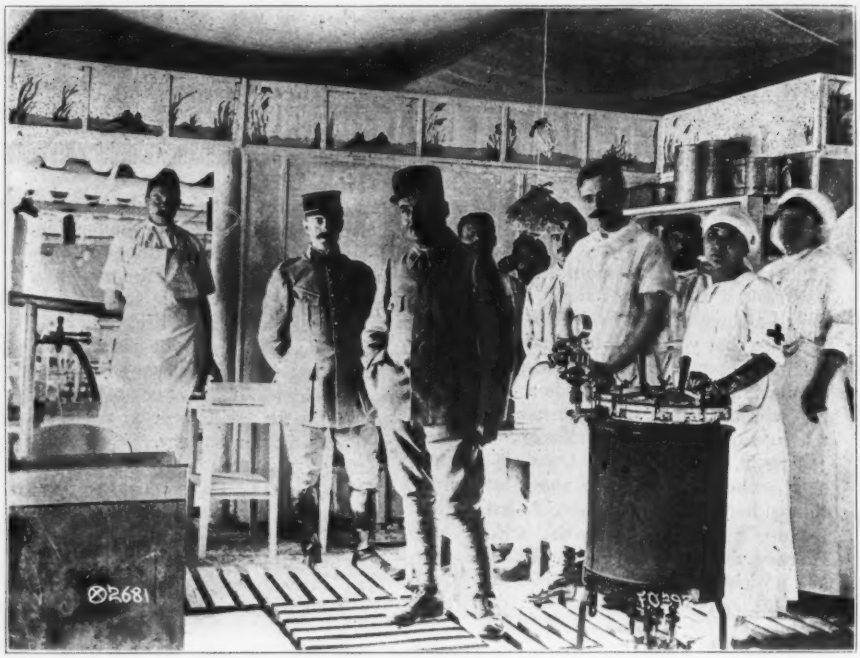
The development in the work of the medical corps of the American Army in France within the last few months is marvelous. The perfection of the hospital-system, the skill of the surgeons, and the alacrity with which the wounded are handled and borne from the battlefields to the hospitals are points to be noted. The mothers at home may be assured that the American soldiers have just as competent medical and surgical attention in the shadow of the battle-line as in any hospital in America.

Hospitals have sprung up everywhere and have grown almost beyond recognition. The base hospital where the Johns Hopkins unit is located had made wonderful growth. It came over with the first American troops in June, 1917, and, in July, was, with the exception of a hospital established at a French port, the first base hospital to be in running order. In March, it held 800 patients, and barracks were then in construction for 5,000 beds. That was then considered an extensive scheme. Today, 7,000 beds are ready, and there are 3,000 patients in this hospital. More barracks are being built, and soon there will be 14,000 beds. Besides the Johns Hopkins Unit, three other units have been added recently—the Maryland unit and the



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French Hospital at the Front.

two army units, while three more are expected.

The hospital presents a picturesque appearance from a distance, with its hundreds of barracks covering a valley and the sides of the hills. All through the district where the American camps are located, from the line of battle straight back to southern France, hospitals have sprung up almost by magic. Many of them are temporary structures, composed of barracks and tents, still, all are most comfortable, in excellent running order, and in perfect sanitary condition.

The Roosevelt Hospital is another of the big base hospitals that have increased their work recently, its capacity having been enlarged to 26,000 beds. Many of the patients have come from the July battle, and I have talked to some that had been wounded on July 21. All were in the best of spirits and proud of their share in maintaining the pace that the Marines set in July.

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Mr. Quentin Todd, who is attached to the Wynne-Bevan Ambulance on the Italian front, has been decorated by the Italian government for his bravery under fire during a severe attack recently, when the entire ambulance distinguished itself. This is his third medal for bravery. A letter just received from Mr. Todd by a friend in Paris states that the Wynne-Bevan Ambulance was decorated by the king of Italy, on July 24, at a big review. The king presented the medals personally to the corps of ambulance-drivers, of which Mr. Todd is a member, and the other personnel of the organization, and spoke a few words to each. The ambulance now has the highest military decorations for valor that it is possible to win. Mr. Todd was also awarded the Order of Merit by Colonel Tuseni, the head of the department of ambulance drivers of the Red Cross. Mrs. Wynne and Captain Bevan had previously received this decoration. Other Americans of the Ambulance Corps that were decorated are: Mr. Evarts Scudder, Mr. Sterling McKittrick, and Mr. Rexford Harrower.

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Working all night with their gas-masks on, under shell-fire, showing the greatest disregard for danger and handling in a

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In a Training Camp of Our Hospital Division.

comparatively short period 1,286 wounded, American Red Cross ambulance section S. S. 101 yet found time to help a British ambulance evacuate gas-cases. The section, consisting of twenty ambulances, a staff-car, a camion, and a kitchen, arrived at —— on July 20 and remained at the front during all the recent fighting. Holes shot through the cars, their chassis rent by shell, and damaged generally give evidence that the men were in the thick of it. In one instance, a chauffeur found himself holding only the wheel of his steering apparatus. A shell had scattered the other part to the four winds. Lieutenant E. A. Fish, who was in charge of the section, in his report to Major C. G. Osborne, director of transportation, pays tribute to the men for their spirit of self-sacrifice and devotion. Lieutenant-Colonel Percival, of the Royal Army Medical Corps, in a letter to Lieutenant Fish, also expressed his gratitude for the work of the section in aiding the British ambulance. Lieutenant Fish adds in his report that 721 sitting-cases and 565 lying-down cases were transported by his section between July 21 and 27. He pays a tribute to L. L. Wenham, who, after his car had been struck, took the car of another man, who had collapsed, and worked both posts.

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In a tiny village about 10 kilometers from the firing-line, the American Red Cross conducts a dressing-station in a church 400 years old. The scenes here on busy nights were picturesque and weird. On one occasion, I saw more than 100 Americans and Germans lying on blankets on the floor under the shadow of the altar, which was lighted by candles, and the rays flickering over the saintly statues and falling upon the faces of the soldiers presented a weird picture of war.

In a niche in the wall that once had been the abode of a saint, a swallow was sitting on her nest. Soldiers bearing cots constantly passed within a foot of this conscientious bird, but, she seemed unafraid, and the soldiers were as solicitous of her as they were of the wounded men they were caring for. This bird built her nest while the Americans were in the church. No one bothered her. The doctors and the internes watched the proceeding with deep interest. The bird laid four eggs and hatched them. It was understood that the first man who handled

the eggs would be courtmartialled. One day the nest was filled with four infant swallows. Day after day the hospital-attendants and the soldiers that were constantly coming in for slight wounds or trivial ailments watched the mother-swallow come and go on her never ceasing errands of feeding her brood. At last, the little ones hopped to the floor. They made their way outside and have not been seen again. The mother-swallow returned a few times, fluttering about the church, as if to pay her respects to the men who had been so thoughtful of her, and at last stayed away for good.

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Many unusual things are to be seen by anyone who journeys about close to the firing-line. Residents of the villages that are closest to the line moved out long ago, but, in some places, three and four miles in the rear, a region within easy reach of the enemy guns, many women, elderly and aged, and men and children may be seen. One day, I saw three children—two boys and a girl, none more than ten years old—walking along with gas-masks hanging over their shoulders. They were in a zone where no soldier is permitted to be without a mask ready for use.

In a little farm colony, a middle-aged woman refuses to move. She owns the colony. I saw her working in a pansy-bed when shells were whistling over her head. She paid no attention to them. On another occasion, shells were falling in a small place where the Germans apparently thought an American headquarter was established. I was on a road about 1,000 feet from the town and could hear the shells whistle over head every minute. Between the road and the town, were four little children picking peas. Shells meant nothing in their tender lives. They have heard them time and time again.

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The Y. M. C. A. is now operating about 1,200 huts in France for the American and French forces. The American section, which works entirely with the United States army and navy, has approximately 550 huts open. This includes all points of contact, such as rented buildings, tents, dug-outs, and 125 especially constructed buildings. The *Foyer du Soldat,* which is the Y. M. C. A. branch operating with the French army, has an even larger number of huts, about 650, according to the latest figures available. The Foyer has established 831 in the course of its existence, but, it has lost many through enemy gunfire or the necessity of yielding ground at various points. Almost all of the Foyers are substantial buildings, equipped with refreshment-stand, writing-room, and amusement-facilities.

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You would not believe it, seeing them sometimes, but, keeping clean is one of the main aims in life among Pershing's men in France. No one ever misses a chance to bathe, and there is many a soldier who insists that, when he returns home, he will be able to get a job anywhere as a laundress. In every marching-kit, you will find a piece of soap. And in every brook, creek or river in the vicinity of a body of troops you will see men "laving" themselves or beating the dirt out of a shirt, a pair of socks or some more unmentionable article of wearing-apparel. In the courtyard of the chateau that the Y. M. C. A. is using as headquarters at Chateau-Thierry, hundreds of soldiers have scrubbed down under the fountain and wished there were similar ready-made shower-baths all over the fighting-front.

Thousands of bars of soap go over the counters at Y. M. C. A. canteens weekly. For delivery in the next three months, the Red Triangle has contracted for 1,800,000 bars of the stuff that discourages dirt and fleas and makes the French wonder why Americans use so much of it. Most of this soap is for toilet-purposes only. The rest is for washing clothes and equipment. Some will be scented in the true French style and some will smell like plain soap. The price for all of it will be at rock-bottom, and the soldier who goes dirty for any length of time will be doing so from a general disinclination to use a little elbow-grease to bring his soap and the hard water of France into cleansing cooperation.

B. SHERWOOD-DUNN.

Paris, France.

Just Among Friends

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by GEORGE F. BUTLER, A. M., M. D.

(Continued from October issue, page 870.)

INSIST again that it is impossible to grapple successfully with venereal disease, unless we consent, not, to introduce our prejudices into the question, but, to treat it purely and simply as a sanitary question. And, if the pseudo-moralist still has difficulty in cooperating toward the healing of the social sore, he may be reminded that he himself—like everyone of us, little though we know it—has certainly had a vast army of syphilitic and gonorrheal persons among his own ancestors during the past four centuries.

In referring to better economic conditions, I repeat: It were as idle to eliminate Prostitution as to extirpate Poverty and Greed. Just as long as Lust runs riot in the veins of men, women will be degraded and debauched. Just as long as Want and Wretchedness stalk like grisly phantoms through the earth, women will be found who will brazenly barter their souls for gold or for bread. There are women who are wantons by nature; whom no wealth, education or moral surroundings can withhold from evil; yet, economic conditions have a greater influence in keeping this evil alive than many people imagine.

Among those conditions contributory to this evil are, low wages, insanitary conditions, demoralizing relationships in stores, shops, domestic service, restaurants, and hotels; the street vending of children in selling papers and gum, collecting coupons and refuse; the messenger service of boys, especially in the vicinity of disorderly houses, vicious saloons, dance-halls, and other demoralizing resorts; employment agencies which send servants to immoral places; too long hours and high pressure of work; the overcrowding of houses upon lots, of families in the house, and of persons in single rooms.

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In closing, I will say, it is useless to talk of "reforming" women who never possessed the faintest conception of modesty; in whom the brutish nature dominates the divine; but, these form a very inconsiderable portion of that great army upon whose brows blazes the scarlet brand of the courtesan. A vast majority of these unfortunates feel their degradation as no malefactor ever felt his disgrace; would, were it possible, wash the stains from their souls with their heart's blood. Every year of the world, thousands of them, unable further to bear their weight of shame, longer to endure the fierce scourgings of an avenging conscience, burst the gates of death, hide in the grave from a cold world's bitter scorn. Other escape there is none; society will not receive them back; its doors are irrevocably closed to them. They may knock, but, it will not be opened to them; they may come on their knees, groping their way through penitential tears, but, they will be spurned from its portals with foul reproach. Society made them what they are; yet, it now sits in judgment upon them and declares that they shall be no other. From the lips of the stern judge, are never heard those words, the sweetest that ever fell on mortal ears, divinest sentence that ever passed the lips of God and man, "Go and sin no more." Others reform. The thief becomes an honest man, the forger lives down his crime, the manslayer purifies his bloody hands with a lifetime of noble deeds; but, once a courtesan, always a courtesan. There is no place in all the wide world but the bagnio for the woman who once has erred—no matter how youthful or inexperienced she was or how foul her betrayal.

To the world, ever gross despite centuries of civilization, all women found even one step outside the prescribed path are equally vile, alike deserving unmitigated censure; yet, from the highest to the lowest of those so outlawed and placed beneath society's ban, is a sweep as far as from the highest heaven to the deepest hell. With some women, Love is a law, before which canons of Church and State shrivel into nothingness. No saintly anathema, no fiat of so-

ciety can disturb their devotion. Society has no power over them for good or ill. From its infallible judgment, they calmly and confidently appeal to an infallible God.

For those at the other extreme, the law of whose lives is Lust instead of Love, children of the slums, the spawn of criminals who were prostitutes from the very cradle, there is no hope. There is no method by which those now existent can be successfully reached. All that we can hope to do is, by improving society, to curtail the class which breeds them. This can not be done by dogmatizing or founding "homes for fallen women"; we must do our most effective work in our industrial system.

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It is that vast class of women, once pure, but, now foul, yet, who still retain a shadow of that "divine shame" which distinguishes humanity from the brute, and who long to return to the upper world—to win back the respect they have forfeited—that chiefly concerns us. Naturally, the first step would be, so to reform society that it will not, year by year, pour thousands of fresh recruits into the ranks of the fallen. Here, too, the need of industrial reform becomes apparent. Bitter poverty is as potent to make prostitutes of young women as thieves of young men. Make it possible for every young woman to earn an honest and respectable living, and you make it possible for thousands of young women to choose aright between good and evil, when their only alternative to degradation now is death. You prepare a field in which it is possible for moral maxims to take root. It is useless to hurl homilies at people suffering for food and fuel, while the devil is clinking his gold pieces and dazzling their eyes with gems.

What is it that is railroading so large a portion of the young women to hell? What strange phantasy is it that leads so many wives to sacrifice the honor of their husbands and shame their children? Is it evil inherent in the daughters of Eve, themselves? Is it lawless lust or force of circumstances that adds legion after legion to the cohorts of shame? Or has our boasted progress brought with it a suspicion that female chastity is, after all, an overprized bauble—that what is no crime against nature should be tolerated by this eminently practical age? Time was when a woman branded as a bawd hid her face for shame or consorted only with her kind; now, if she can but become sufficiently notorious, she goes upon the stage, and men take their wives and daughters to see her play "Camille" and kindred characters. This may signify much; among other things, that the courtesan is creeping into social favor — even that a new code of morals is now abuilding, in which she will be the grand exemplar. It is not so much the number of professed prostitutes that alarms the student of sociology, as the brutal indifference to even the semblance of sexual purity which is taking possession of our social aristocracy, and which poison, percolating through the underlying strata, threatens to eliminate womanly continence from the world.

If, despite all our safeguards of law and the restraining force of religion, society becomes more corrupt; if, with our boasted progress in education and the arts, women of alleged respectability grow less chary of their charms—if the necessities of poverty and the luxury of wealth alike increase the number of brazen bawds and cultured mistresses—it is a fair inference that there is something radically wrong with our social system.

Prostitution increases in direct proportion as the general social conditions and the economical situation are unfavorable to marriage, and it decreases as marriage is facilitated. So long as a business man is able to make a million a year net profit, while of his employees scarcely two or three are so paid that they can think of marriage before the age of thirty; so long as an employer will refuse a female employee a raise of salary with a gallant reference to the ease with which—with her advantages of appearances—she might increase her income; so long will the marriage question, as well as that of prostitution, remain unsolved.

So long as the present low rates of pay and uncertain conditions of employment continue, the blood of men will continue more and more to be corrupted and that of women be impoverished, while waiting for the marriage which might have checked the social evil and given to society excellent children born of healthy and happy parents.

So long as societies thus fatuously sacrifice their highest values, will every other kind of social reform be nothing but a work of Penelope, of which the night will undo what the day has done.

Among the Books

STITT: "BACTERIOLOGY"

Practical Bacteriology, Blood-Work, and Animal Parasitology, Including Bacteriological Keys, Zoological Tables, and Explanatory Clinical Notes. By E. R. Stitt, M. D. Fifth edition, revised and enlarged. With 1 plate and 144 other illustrations containing 598 figures. Philadelphia: P. Blakiston's Son & Co. 1918. Price $2.00.

The fifth edition of Stitt's "Bacteriology" needs nothing further than a mere announcement. This volume has been a faithful guide to many physicians and laboratory-workers for years. It is one of the most valuable books of its kind, for the simple reason that the author not only is an unusually efficient and successful teacher, but, also, has the enviable ability of presenting the subject in a clear and interesting manner.

WARBASSE: "SURGICAL TREATMENT"

Surgical Treatment: A Practical Treatise on the Therapy of Surgical Diseases, for the Use of Practitioners and Students of Surgery. By James Peter Warbasse, M. D. With 2,400 illustrations. Philadelphia: The W. B. Saunders Company. 1918. Complete in 3 volumes and an index volume. Price $30.00.

The first volume of the contemplated 3 volumes is a handsome book of 947 pages, including 47 pages of index, and contains the considerations of general subjects, such as asepsis and antiseptics, surgical materials, anesthetics, wounds and operations, inflammations, surgical fevers, and so on. Also, it contains general discussions on fractures, dislocations, and diseases of the joints, of muscles, tendons, and nerves.

Doctor Warbasse has included in his discussions the latest methods proposed for wound treatment. Thus, we find, for instance, paragraphs on the hypochlorite of magnesium, on dichloramine, chlorinated oil, magnesium sulphate, et cetera. The subject of syphilis as a surgical infection has received detailed attention. Altogether the first volume of Warbasse's "Treatment" promises well for the value of the work and it can be heartily recommended.

MAYER: "GUNSHOT INJURIES"

The Orthopedic Treatment of Gunshot Injuries. By Leo Mayer, M. D., with an Introduction by Col. E. G. Brackett, M. D. Illustrated. Philadelphia: The W. B. Saunders Company. 1918. Price $2.50.

This little volume is dedicated to all who by word and deed are striving to aid the cause of the crippled soldiers. The author insists, justly, upon the necessity of early radical methods for ultimate conservative results and for the final completion of full function. There are few problems confronting us that are more important than the treatment of rehabilitation of those injured in war-service. There are few subjects even approaching it in difficulty, but, likewise, few that are so promising of splendid results.

MAY: "DISEASES OF THE EYE"

Manual of the Diseases of the Eye: For Students and General Practitioners. By Charles H. May, M. D. With 377 original illustrations, including 22 plates, with 71 colored figures. Ninth edition, revised. New York: William Wood & Co. 1917. Price $2.50.

If anything more were needed to demonstrate the value of a book, the enormous demand for May's manual would seem to suffice. The present is the ninth edition issued in America since August, 1900. In addition, there have been ten reprints here and twenty editions, with one reprint, in foreign lands. Germany, Italy, Great Britain, France, Netherlands, Spain, and Japan have thus testified to their appreciation of this work, and we are informed that a translation into Chinese is now being made.

Looking through the book, we would say that this popularity is fully justified. It is an admirable manual for students and gen-

eral practitioners. In its 440 pages, there are 377 original illustrations, including 22 plates, with 71 colored figures. The language is simple, clear, and readily understood. The directions for various examinations are so plainly put as to be easily comprehended. The procedures recommended are well chosen. The author's drug-therapeutics, even, is comparatively up to date, although he is a specialist on a part of the body peculiarly open to operative intervention. He is not a drug-nihilist, by any means. He even is aware of the services obtainable from calcium sulphide. And that fact so fully illustrates our encomiums that we let it go at that.

CARMAN AND MILLER: "ROENTGEN DIAGNOSIS"

The Roentgen Diagnosis of Diseases of the Alimentary Canal. By Russell D. Carman, M. D., and Albert Miller, M. D. With 504 Original Illustrations. Philadelphia: The W. B. Saunders Company. 1917. Price $7.50.

The reviewer of this work throws up his hands and begs for mercy. He can not review this book; he does not want to review it. That is, he is unwilling to give it the cursory examination often accorded a book; reading the preface, glancing at random through a few pages, picking out some one item with which he is personally familiar, judging the book by the writer's treatment of that item, saying a few complimentary things, and letting it go at that.

We have here a magnificent volume of 558 pages and more than 500 original illustrations coming from the hands of two of the specialists in the great Mayo institution. We want to read and study this volume from beginning to end. For—make no mistake—that institution is revolutionizing the whole science and art of medicine. The old methods of teaching, together with our cherished textbooks, are going into the discard, to be replaced by the enormously improved methods being developed in the Minnesota town of Rochester. Doctor, you might as well dispose of your medical library to the junkman and start in at once, so as to be in line with this new work.

One thing puzzles us—these are war times: economy is supposed to be universal and paper so scarce that there is talk of the government compelling a reduction in the size of the periodicals of the day. And, yet, we have never known medical books of such perfection as to their fabrication as the lot now occupying our table. The type used is extra large, the spacing and margins wide, and the highly calendered pure-white paper nearly as thick as cardboard. Where do they get it, and how can they afford it!

W. F. W.

TODD: "CLINICAL DIAGNOSIS"

Clinical Diagnosis: A Manual of Laboratory Methods. By James Campbell Todd, M. D. Illustrated. Fourth edition, revised and reset. Philadelphia: The W. B. Saunders Company. 1918. Price $3.00.

When the Ninth International Medical Congress first was organized, but one place was assigned to the entire medical profession west of the Atlantic slope; while to the members of the faculty of the University of Pennsylvania no less than thirty posts were assigned. There certainly has been a change. Here we have a work from the laboratories of the University of Colorado, and, more, it is the fourth edition, in addition to three reprints, issued since its first appearance in 1908. This fact really seems to render an extended review unnecessary. So far as we have examined it, we have found nothing to condemn, but, on the contrary, much to explain its proven popularity. One point, however, we must call attention to. The examination of the feces is limited to but 25 small pages, and only 8 of these are devoted to the microscopic examination. We venture the prediction that in the near future very much more attention will be given to this department, with correspondingly valuable results.

GRAVES: "GYNECOLOGY"

Gynecology. By William P. Graves, M. D. With 368 Halftone and Pen Drawings by the Author and 123 Microscopic Drawings by Margaret Concree and Ruth Huestis, 100 of the Illustrations being in Colors. Second edition, thoroughly revised. Philadelphia: The W. B. Saunders Company. 1918. Price $7.75.

The second edition of Graves's "Gynecology"—which really is a third issue, since the first edition was reprinted last year—

has been brought up to date as nearly as was possible. A notable addition consists in the section on the relation between the practice of gynecology and the use of the internal secretions. There also are interesting chapters on ovarian transplantation, on the radium-treatment of cancer and of nonmalignant gynecologic diseases. A new section has been introduced which deals with the relationship of gynecology to the sex-impulse, as based, chiefly, upon the theories of Freud regarding infant-sexuality. We can not agree with the author, however, when he assumes that these theories are now generally accepted.

The work is divided into three parts, the first dealing with the physiology of the pelvic organs and their relationship to the general organism. This latter is of particular importance. The second part contains descriptions of those diseases that are naturally gynecologic. The third part is devoted to the technic of gynecologic surgery.

THE STRATFORD UNIVERSAL LIBRARY

"Lazarus," by Andreyev, and "The Gentleman from San Francisco," by Bunin, and (2) "Tales from Boccaccio," are two volumes that recently have been submitted to the Reviewer. They are published by The Stratford Company, Boston, Massachusetts, at 25 cents a volume.

While most of us are familiar with the "Tales From Boccaccio," we shall enjoy the rereading of this attractive selection, which contains, notably, the famous "Story of the Three Rings" and also the "Story of Griselda." Entirely different are the two stories in the first volume mentioned. The biblical account of the raising of Lazarus from the dead leaves him restored to his family, the whole countryside rejoicing in the miracle that had been wrought by the Prophet of Nazareth. The Russian novelist Andreyev, with a curiosity that must be called morbid, now inquires into what happened to Lazarus during those three days that his body lay with the dead. What did he see? What were his experiences? Naturally enough, the author does not attempt to answer the question himself, but, he lets the reader infer certain awful and gruesome experiences, by relating that the formerly good and joyous Lazarus never again laughed or even smiled; that there was something so terribly haunting in his expression that his family left him and that his friends forsook him, leaving him to live out his existence alone. While the story is told morbidly, it is not without interest.

In "The Gentleman From San Francisco," by Bunin, the impotence of power and the poverty of self against the leveling effect of death are graphically described.

HESS: "INFANT FEEDING"

Principles and Practice of Infant Feeding. By Julius H. Hess. Illustrated. Philadelphia: The F. A. Davis Company. 1918. Price $2.00.

Here is a volume contributed by a Chicago specialist who is now at the front. Doctor Hess has given us a very good manual on this most-important topic. There are some points, though, which we feel constrained to criticize and which lead us to infer that the work was prepared some years ago. Thus, the vitamines are not mentioned, although their enormous importance has been fully demonstrated. Quite recently, the administration of raw white of egg has been sharply questioned, it being asserted that it contains a toxin that is not safe when freely administered to an infant. Then, as regards the commercial infant foods, we are not ready to agree with Doctor Hess in his preference of those that contain only a trace of fat. Also, his drug-treatment is not very effective and shows evidences of the prevailing pessimism in the respect.

NEGLEY: "POEMS WITH A PUNCH"

Poems with a Punch For Patriotic People. Published by H. E. Negley. Author and Compiler. Indianapolis, Ind. 1918. rice $.50.

Here is a little book of poems by the author of "Back to the Light" which we were permitted to print in the September issue of CLINICAL MEDICINE. These poems are all patriotic and refer more or less immediately to the war. They are dictated by a great love of country, of justice and right, and humanity, and they manifest a corresponding hatred of brutality, deceit and other latter-day evidences of kultur.

Some of them are charming, others are pathetic; still others make you smile. The little volume will make a splendid present to a soldier and to soldiers' libraries.

"PROGRESSIVE MEDICINE"

The third (September) number of *Progressive Medicine* for 1918 is before us and contains the customary abstracts of interesting and important articles that have appeared in current medical literature. On cursory examination, our attention is attracted by an article on vegetable foods for the diabetic which will be of interest to many physicians. Gassing has occupied various authors as has also blood transfusion. In the department of obstetrics, the relation of the glands of internal secretions to obstetrics again has received attention. The Abderhalden test seems to have stimulated further research; at any rate, we note an article on the diagnosis of pregnancy by chemical examination of the blood.

Altogether, *Progressive Medicine* is a useful source of information to the physician. It is edited by Dr. Hobart Amory Hare and Dr. Leighton F. Appleman, and published quarterly by Lea and Febiger, Philadelphia and New York, the subscription price being $6.00 per annum.

ROBINSON: "SEXUAL DISORDERS"

A Practical Treatise on the Causes, Symptoms, and Treatment of Sexual Impotence and other sexual disorders in men and women. By William J. Robinson, M. D. Eighth edition, revised and enlarged. New York: Critic and Guide Company. 1918. Price $4.00.

While the author enumerates over thirty possible causes of sexual impotence in the male, he evidently is convinced of the relatively great importance, in this respect, of masturbation and of pollutions and spermatorrhea, since he devotes to these two subjects each a separate part in his detailed discussion. Regarding masturbation, the author must be credited with sane and truly conservative opinions. Far from condemning this widespread habit as "sinful" or vicious, on the one hand, or of denying (as some recent writers have done) an inherent harmfulness, he places the evil in its proper place as a habit that may be productive of much and serious injury if it is indulged in in too great a degree or for too long a time. Fortunately, most people give up the habit sooner or later. As to its prevalence in girls and women, the author denies its alleged great frequency, believing it to be not more than about twenty-five percent; although, in boys and men it is much greater. In one point, the author is at variance with most modern writers; namely, he believes that, in certain extreme cases, masturbation *may* have been responsible for locomotor ataxia and for insanity; at least, in several cases of the former affliction no other etiological factor could be ascertained.

The considerations on masturbation occupy barely one-fourth of the text of this little volume. The entire book is written in a highly commendable manner, free from excessive verbiage or foolish preachments; and equally devoid of silly, mawkish moral precepts. The morals taught by the author are those of good sense. And, the same is true of his treatment outlined for the various sexual disorders of men and women. It must also be mentioned that the prurient-minded will find nothing in this book to satisfy their salaciousness. The language is altogether too straight-forward and too free from hidden meanings; not an easy thing to have accomplished in a book of this kind. Physicians should study it carefully. A full knowledge of the topic is sadly needed by most practitioners; and they should be able to teach their patients correctly and sensibly.

MARIE: "MEDICAL VOCABULARY"

English, French, Italian Medical Vocabulary. By Joseph Marie. Philadelphia: The P. Blakiston's Son & Co. 1918. Price 50 cents.

This is a handy little volume that easily slips into the pocket and contains a great many words, with their French and Italian equivalents, that may be needed by medical officers. The selection of words is good and the correctness of the translation may be taken for granted. Indeed, we have been unable to find any instance in which we would differ with the author's interpretation. The little volume will be very useful to medical officers.

Condensed Queries Answered

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

Answers to Queries

Referring to Question 6396, the editor, in his comment, offers to send to the correspondent a reprint of his article on the treatment of epilepsy. If he has a copy to spare, I should thank him for one, too.

"Nervous collapse" is, of course, a most unsatisfactory term, and we are wondering just what the basal pathological conditions were which led to the breakdown. It would be an excellent idea to have the blood examined, and the urine should be analyzed at frequent intervals.

Queries

QUERY 6404.—"Asthenia." B. G. S., Wisconsin, has in his care a farmer, aged 53, who had had pneumonia and pleurisy November of last year, being attended by a neighboring physician. He was left very weak and with a bad cough. "I saw him first in March. He now complains of loss of appetite, being very nervous and cold, and sweaty. His temperature runs between 1½ and 2½ degrees below normal at all times. He is always sweating, having his underwear changed two or three times a day. On going out doors on a hot day, his clothes soon are damp and he gets so cold that he must come indoors. The kidneys are normal, the bowels respond to any common laxative. Digestion is good. He uses dental plates, all teeth being removed. I have been giving nux vomica (or strychnine), digitalin, tonics, salt rubs, cool baths, atropine, et cetera. I have concluded that something has happened to his "heat-center."

We regret to state that, without a much clearer idea of underlying conditions, it is impossible to account definitely for your patient's condition. The symptoms you briefly describe show a marked vasomotor disturbance and are those presented in asthenia. We should strongly advise that the blood and urine be examined and suggest that you forward a 4-ounce specimen of urine (taken from the mixed 24-hour output, stating total quantity voided) and a sample of blood to a competent pathologist, for examination.

Just what conditions are revealed by thoracic auscultation and percussion? Any marked loss in weight? What is the blood pressure? Pulse rate? Any arteriosclerosis?

It strikes us very forcibly that it would be advisable to keep this man in bed or at least in his room until the hyperidrosis is controlled. On general principles, we should advise the administration of nux or strychnine, with capsicum, every three hours. We also should give some such simple bitter tonic as quassin or gentian, a dose fifteen or twenty minutes before meals; likewise, minute doses of atropine valerate, continuing until slight flushing of the skin is observed. Some benefit will be produced by epsom-salt sponge-baths, followed by brisk friction with a rough towel; or else give the "salt-glow." Instruct your patient in deep breathing. Be very careful to have his diet of a highly

nutritious and easily assimilated character.

We do not believe we should use digitalin, but, you might, with advantage, give cactin with the nux and capsicum.

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QUERY 6405.—"Hysterical Narcolepsy"? J. K. K., Iowa, has under care a girl, 12 years of age, who had the measles some three months ago and who since recovering has not been right. Her temperature has been slightly above normal each time it was taken. "She gets up in the mornings feeling fairly good, works around till about noon, then begins to feel tired and languid, and at about 2 o'clock each day she goes to sleep and sleeps till about 5 p. m., then wakes up crying. First it was a quiet cry, now it is loud and boisterous. She keeps up the crying till 9 or 10 at night continuously. When her sleepy spells come on, nothing they try to do short of roughness, it seems, will keep her awake. This is as regular as clockwork each day for now a month or more. Her mother is what I call hysterically insane at times, and is a nervous or what we used to call a neurasthenic patient. I have put her on belladonna, pulsatilla, and aconite, the latter in 1/3-drop doses, as the pulse is about 115 per minute and the temperature 99° to 100° F. I thought of giving bromide of ammonia in place of belladonna, but, there might be some meningitis lurking around. When asleep, her eyes are closed, but, the lids keep working or winking.

"The bowels are kept regular all the time. She eats a fairly good breakfast, then will eat no more, except a little dinner, till the next day. It seems nothing will divert her from her hysterical weeping. She seems to be perfectly rational when she wakes up in the morning and at any other time; only we can not talk her out of the weeping or keep her from falling asleep every afternoon. I shall appreciate help, through CLINICAL MEDICINE or by personal letter, from any of the medical fraternity. I suggested much outdoor light work or pleasure by the lakes, travel, et cetera."

As you can readily understand, it is extremely difficult, indeed, impossible, to venture a diagnosis, but, considering the history, unquestionably you have to deal with a neurosis, most likely of toxic origin. Of course, the fact that the patient had measles three months ago and the temperature is slightly above normal would lead us to suspect some septic focus. The tonsils and nasal passages should be examined thoroughly. We certainly should submit specimens of urine and blood, for examination, to a reliable pathologist. Do not forget, however, that you are dealing with a 12-year-old girl with an unsatisfactory family history. At this period of life, inherited nerve-instability is likely to manifest itself on very slight provocation.

Circumcision and dilatation of the anal sphincters might work wonders in this case. Of course, it is absolutely essential to exclude the existence of an imperforate hymen and retained menstrual discharge. In a well-developed, 12-year-old girl, menstruating may easily have commenced. We believe you may exclude any meningeal involvement, the periodicity of the attacks arguing strongly against the existence of such condition.

We should be inclined to attempt to break the regularity of the attacks by administering a hypnotic and keeping her asleep until about the period in which her usual sleepy spell comes on. She should then be aroused and the usual morning procedures gone on with. It would be interesting to observe if she then has several hours of wellbeing and begins to become somnolent toward evening, or, after the period at which she usually awakes up and begins the hysterical crying.

A possible disorder of the internal secretions should not be overlooked. It would be well, we think, to pay some attention to the thyroid gland. Note also the blood pressure. Test the reflexes. Be very positive in your suggestions and, by all means, have the girl in the open air as much as possible. It might be an excellent plan to remove her from home surroundings and influences for some time.

Upon receipt of further clinical data and laboratory report on specimens of blood and urine (4 ounces taken from the mixed 24-hour output, stating total quantity voided), we believe we shall be in a position to discuss the case more intelligently.

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QUERY: 6406.—"Autointoxication." M. L. C., Massachusetts, requests our opinion of this case: "Patient, a literary woman, now fifty-five. Twenty years ago, her

eyes gave out for close work. All regulation things were done for the eyes by competent oculists; however, nothing enabled the patient to return, with any comfort, to her chosen work. Later, she had to wear colored glasses. While she has always been constipated, she gave no thought to that, nor did any physician.

"First relief came from having abraded rectal and sigmoidal surfaces (so the New York physician said) touched with 2-percent nitrate of silver solution. Marked results followed this treatment; the patient was able the next day to discard her colored glasses, and her eyes improved steadily for a few treatments. No further improvement took place after five or six treatments, however, the eyes never returned to their former bad condition, she never since having worn colored glasses. Later, marked improvement resulted from having her coccyx removed. This lasted for some time. While gradually returning, the trouble never again became as bad as before.

"Six years ago, she was taken with salivation after using her eyes; severe palpitation also set in. For weeks preceding this, she had felt a 'pulling' in the throat after using eyes; also her voice became husky when using her eyes. This last symptom still remains. Two years ago, the patient became very edemic; she was short of breath; lips became blue on exertion; she complained most of discomfort at or around the pit of the stomach—could not describe it—a kind of pressure, worse on walking. This symptom was marked and persistent. The patient was supposed to be near her end, because of her heart, which is hypertrophied and has been so almost from childhood, following rheumatic fever.

"At this time, she went to a Battle Creek branch, where she was given a test breakfast, which revealed a great lack of hydrochloric acid, and she was put upon this acid with the meals. In a week, all edema had gone, she was up and around and more comfortable by far than for months. Also, she could use her eyes as never before for a long time. (No heart tonic was used at this time.) At another time, when her eyes were bad again, she was given an intravenous preparation of creosote, calcium, and iron (a preparation used by a physician here for colds and especially for pneumonia), and with marked good results on the eyes. The eyes were fine for three or four days after this. At another time, the eyes came up under trimethyl tablets. At another time, they came up under galactenzyme. (These occasions I should have placed before the hydrochloric-acid record.) In the last year, she has had marked improvement from "bacids"—prepared by Palisade Pharmacy Company, New York. Twice, when it seemed that glasses must need changing, the eyes came up under the use of these bacids. Recently, chancing to take bismuth for an attack of diarrhea, the patient found eyes improved, greatly, wonderfully, and the sinking at the pit of the stomach, which she has had for months, wholly gone. Has not felt so well—so steady and firm, to use her own expression—as after taking these bismuth tablets.

"She uses high enemas frequently; for, as I should have said, the heart symptoms disappeared marvelously the first that she took one a year or so ago. These heart symptoms, by the way, have disappeared like magic under the bismuth. The patient says she can't remember when her heart has been so quiet, so free from fluttering, so quiet on turning in bed. She forgets that she has a heart since taking the bismuth. In walking, she finds herself off with feeling of strength; although, of course, her strength is very limited. Although far from a well woman, she is a resurrection, as it were, in comparison with the time when she was edemic, breathless, and with the pressure or compression at the pit of the stomach.

"Eyes, eyes, always eyes, are the patient's plea, and everything reports in them for better or for worse. Always they have responded to intestinal treatment, and to nothing else—that is to say, intestinal antiseptic treatment. Have you any such records? Are eyes so affected by autointoxication as this case seems to indicate? What should one expect to find in that colon or sigmoid or rectum? This case has led me to think of autointoxication in several other eye-cases, and each has responded to intestinal treatment.

"I am beginning to think that 'neurasthenic eyes' are due to autointoxication! Have you any suggestions?"

We have read with care your very interesting communication and are inclined

to believe with you that most of the symptoms presented by your patient have been and still are the result of some disorder of the alimentary tract, complicated, doubtless, by a derangement of the internal secretions. A study of the sympathetic nervous system will enable you, we are sure, to understand how easily a pathological condition of the intestine may affect the eye. In this connection, let us suggest that you spend a few hours reading Robinson's "The Abdominal Brain" and also Abrams' "The Blues."

The mere fact that from the first little or no improvement in the patient's condition followed the fitting of appropriate glasses should have led to a more thorough investigation of the individual and her secretions. The New York physician who discovered a congested, possibly ulcerated area about the sigmoid was, unquestionably, on the right track, and we are not surprised to learn that after a few applications of silver nitrate, the ocular conditions materially improved. That there were other foci of irritation is evidenced by the fact that further improvement followed the removal of the coccyx. However, it is barely possible that the preliminary elimination and rest consequent upon the operation had a beneficial effect.

The conditions which were present in this woman twenty years ago, however, must have been entirely different from those that have obtained for the past five years. It is reasonable to assume that she has passed or is now passing through the climacteric, and it is at this stage of life that derangement of the internal secretions (gonads, thyroid, pituitary, etc.,) may produce just such symptoms as she has complained of.

Naturally, also, at such time, the eyes suffer more or less and any eyestrain will aggravate reflexly the other condition. Hence, a vicious circle will be set up and all sorts of troubles arise. Relaxation of the splanchnics and gastric atony were revealed by the lack of hydrochloric acid, and, as soon as this was supplied, one of the most-marked symptoms disappeared. Later on, the administration of other remedial agents evidently controlled the autotoxemia to a certain extent or changed endocrine conditions, and again the patient improved.

Still, we come back to the fact that in this particular instance the alimentary tract throughout must be regarded as the *fons et origo mali;* for, we know that even recently the patient had a diarrhea, to relieve which, she took bismuth and thereupon experienced pronounced, permanent relief from other symptoms.

From this, we may argue that there still exists a congested, catarrhal or even ulcerated region in some portion of the intestinal tract, and it has been the writer's experience that such areas mostly are found about the sigmoid or in the region of the splenic flexure. It is an opprobrium to the profession that such conditions, when presenting themselves in an intelligent patient of this type, so often are dismissed with the brief diagnosis of "neurasthenia"—a term which, in this writer's opinion, is synomynous with "something wrong with the underlying vital force of the individual, but, of the nature of which we are entirely ignorant."

Some very wise specialists speak of such an individual as suffering from a psycho- or a trophoneurosis—a designation slightly more intelligible—but, they fail to realize that there is a cause for all such departures from the normal, and nine times out of ten the condition will be found to arise in the intestine or the genitourinary tract.

Without going further into the subject, upon which volumes have already been written, we would congratulate you upon the correctness of the conclusion you have already arrived at, namely, that, in treating socalled "neurasthenic eyes" or, for that matter, any socalled neurasthenic, think of the possibility, indeed, of the extreme probability of a causative autotoxemia, probably of intestinal origin.

We shall be pleased to hear further from you as to the progress of this patient.